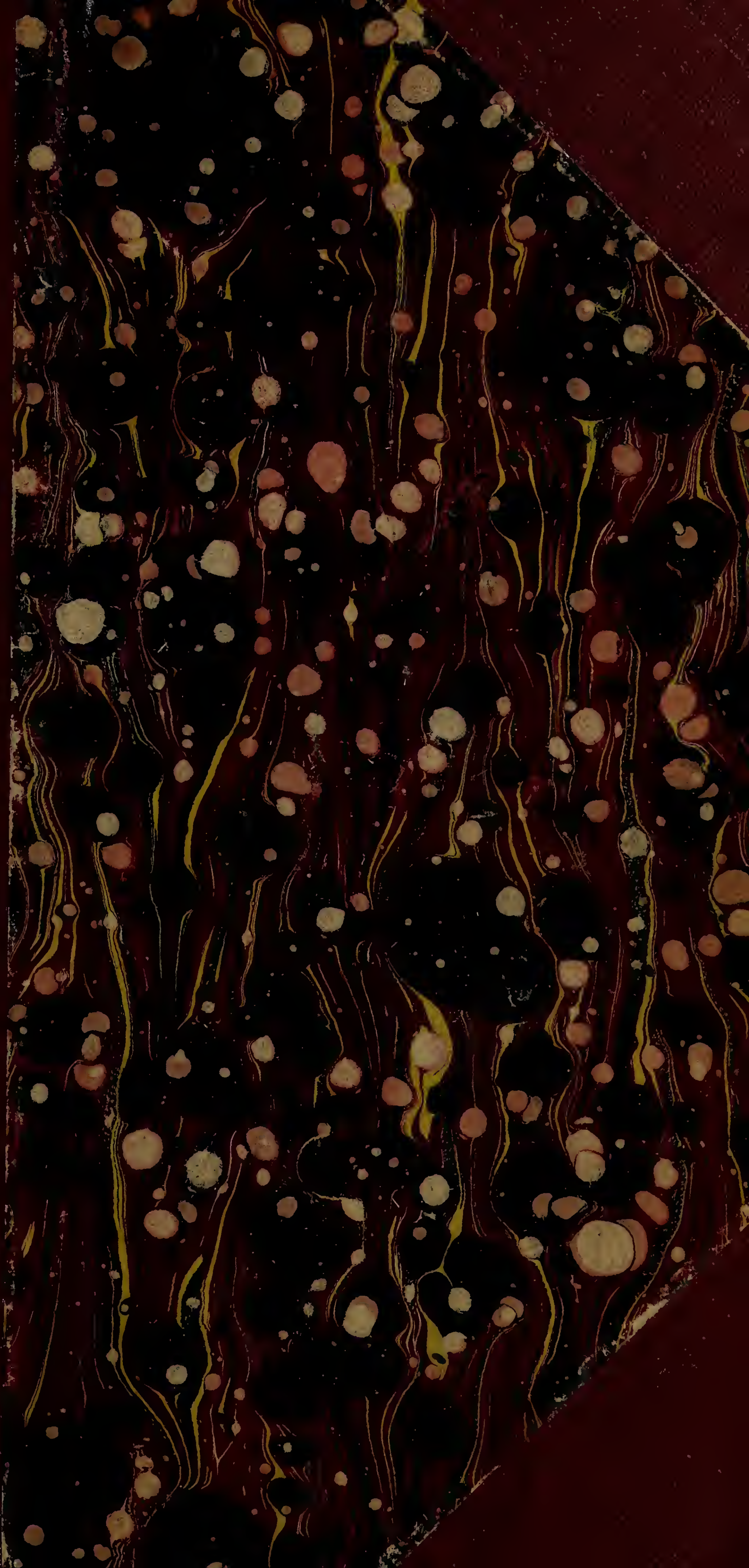

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THE

NEW-YORK DISSECTOR:

A Quarterly Journal

OF

MEDICINE, SURGERY, MAGNETISM, MESMERISM,

AND THE COLLATERAL SCIENCES,

WITH THE

MYSTERIES AND FALLACIES OF THE FACULTY.

EDITED BY

HENRY HALL SHERWOOD, M. D.

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THE DISSECTOR.

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ARTICLE I.

The Mysteries of the Faculty.

Physicians of learning and experience know that no dependence can be placed on the old astrological symptoms, by which they have been taught to distinguish tubercular disease, nor on the common imbecile remedies for it, as is seen by the following declarations of the distinguished professor, M. Lugol, of Paris, to the students of medicine, 1841*.

"Tubercles may exist in parenchymatous organs, may even partly annihilate them, without their existence being revealed by any external symptoms. Our want of success in the use of the ordinary means of diagnosticating tubercles, proves that those means are inadequate, that we follow an erroneous course in our investigations, and that we must resort to new modes if we wish to be successful. The numerous checks and repeated deceptions to which physicians are daily exposed in the diagnosis and treatment of tuberculous diseases, do they not prove that it is necessary to leave the beaten track of inquiry and pursue some other which is less fallible?"

Few physicians, however, will leave the old beaten track for a new one, until they are driven from it by public opinion; no matter what the consequences may be to their patients.

" Wherever we have any thing like principles to guide us, *our prescriptions are extremely limited;* wherever we have no fixed principles to guide us, *our prescriptions accumulate with empirical rapidity.* But what, it may be reasonably enquired, is the principal cause of all this complexity of formulæ in chronic diseases? Undoubtedly it arises from that vagueness of opinion which exists respecting the nature of these diseases in their onset, and in the greater part of their progress; and so long as we attempt to cover our ignorance by such terms as *nervous, billious, dyspeptic, spasmodic,* and the like, so long shall our practice be mere experiment in most chronic affections. We may make a sort of druggist's shop of the stomach of every patient laboring under chronic disease, by alternately cramming it with most of the articles of the pharmacopœas; but we shall not, probably, advance in the treatment, until we deduce pathological principles, from *cautiously marking the rise and progress of the symptoms, and exploring their seats and effects.*—Dr. Armstrong.

" The whole science of healing is built upon fortuitous and chance discoveries. Like the alchemists of old, we have discovered a thousand valuable things, where we never thought of looking for them; and while uselessly seeking for talismanic gold, we have lighted on a pearl of great price. Every thing, in fact, is presented to us as the result of experiment; and, in the treatment of disease, the most valuable remedy can boast of no higher origin than its more humble neighbor."—G. B. Childs.

In addition to the testimony of the distinguished physicians above mentioned, is the following extract from the *London Lancet,* for January 14, 1843, to the same effect; and this brief paragraph is only one of the many evidences afforded by that very high medical authority, and indeed by the medical literature of the day, that a brighter era is beginning to dawn upon this momentous subject:

"How much have we yet to learn, how little do we really know, of the nature and rational treatment, not only of the diseases of the cerebro-spinal system, but of diseases in general! Assuredly, the uncertain and most unsatisfactory art that we call medical science, is no science at all, but a jumble of inconsistent opinions; of conclusions hastily drawn; of facts badly arranged; of observations made with carelessness; of comparisons instituted which are not analogical; of hypotheses which are foolish: and of theories which, if not useless, are dangerous. This is the reason why we have our homœopathists, and our hydropathists; our mesmerists and our celestialists!" (and he might have added an army of arrant quacks.)—Dr. Evans. Edinburg.

Mr. Wakley, M. P., in his editorial article, in the same number, advises the members of the medical profession, to commence collecting facts, in their several districts, *de novo,* on which to found, at a future period, a rational and effectual mode of treating diseases.

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*The professors of our medical colleges, like the ancient astrologers, who were physicians, priests and astronomers, pretend to distinguish chronic diseases by feeling the pulse, the aspect of the urine, the odour of the stools, &c. &c., and they will continue to teach such nonsense as long as it is of any value in the market.

The illiberality with which I have been treated, by many of the leading men of the profession, while I have been alone engaged, through a long series of years, in establishing the true character and great importance of the new symptoms and remedies, in chronic diseases, and in the only way in which I could hope for success, will fully justify me, in thus exposing to the public in the years of my triumph, the heartless impositions those men are constantly practising.

The following observations upon the mysteries and fallacies of the faculty, are from one of the most intellectual men of the age.

Observers of passing events cannot have failed for some years past to recognize the approach of a new era in the science of medicine. The practitioner who has imbibed his dogmas during his hospital pupilage, who, from inertness, indifference, or incompetency, rejoices in the conjectural nature of his art, who contemns its principles, closes his ears against its reasoning, and his understanding to its improvements, may proceed self-sufficiently, and empirically, to the termination of his career. The practitioner of this stamp may boldly vaunt his experience as the infallible criterion of the means that are available by man in alleviating misery and prolonging existence, and may continue to play upon the weaknesses and sufferings of humanity, and the contingencies of life, regardless alike of the advancement of learning, and of the useful practical results which flow from it.

But the disciples of a truly rational medicine, who are now daily filling the ranks of the profession, who, being active, emulous, and competent, are watching with a vigilant eye the progress of science, and are drawing continually from its tributary streams, for the means of rendering more complete their knowledge of the animal economy—who seize with avidity every newly developed truth, view it in all its relations, compare it with previously discovered truths, fix its legitimate value, and assign its proper locality,—who, slow to adopt crude theories, founded upon uncertain data; slower still in resorting to expedients of conjectural utility, both in medicine and surgery; arrive, albeit, imperceptibly, at unerring principles, as the basis of a considerate and cautious, but an energetic and fearless practice. Such men must hail with the liveliest enthusiasm, every new impulse received by the science, at a period of its history when there is promised a richer harvest of beneficial results than at any which has preceded it. HENRY ANCELL, Esq.,

Lecturer on Medical Jurisprudence at the School of Anatomy and Medicine. Grosvenor Place, Saint George's Hospital, and Surgeon to the Western General Dispensary.—LONDON LANCET—*Nov.* 19, 1842.

ARTICLE II.

Symptoms of Tubercular Disease.

Tubercula, or Scrofula, is invariably distinguished by pain, more or less severe in proportion to the intensity of the disease, produced by pressure on the ganglions of the spinal nerves, in the intervertebral spaces along each side of the spine: no matter what name may have been given to the malady by physicians, nosologists, or other medical writers. These ganglions are organs of sensation, and are connected with the skin and serous membranes, as well as the serous surfaces, in every part of the body, through the posterior spinal nerves; while the anterior and motor spinal nerves, are connected with the mucous membranes, and mucous surfaces in every part of the body; and this arrangement of the nerves of sensation and motion, was obviously necessary, both to the inception and existence of the animal creation, to prevent the irritating effects of the atmosphere, of fluids, and semi-fluids, or other non-solid substances, which are necessarily and constantly in contact with the mucous membranes, and mucous surfaces of sentient creatures. The following case, in which nearly all the organs and limbs were affected with tubercular disease at the same time, not only gives a very clear view of the simplicity and accuracy of these symptoms, but also conclusively demonstrates a direct connection between the ganglions of the spinal nerves, and the serous membranes and surfaces:—

Mrs. J. P., of good constitution, light complexion, and naturally full habit, aged 22 years.

Called to see her January 11th, 1835. She has a swelling on the right side of her neck and face, which commenced about the 10th of November last, and has been out of health about three years.

Suspecting tubercula, and without making further inquiries, and in the presence of a number of gentlemen and ladies, we commenced an examination of the lymphatic glands along both sides of the spine, and first with those of the first cervical vertebræ, and pressed with the finger upon one lying close to the right side of the vertebræ, and of the size of a very small bean, which produced a scream from severe spasmodic pain, which, on every repetition of the pressure, darted violently, and with the rapidity of lightning, into the external cervical and submaxillary tubercles, and into the upper jaw, ear, and right side of the head; and on her complaining of its darting also into her throat, we examined it, and found two tubercles rising conspicuously in the right tonsil, and one in the gum of the upper jaw, all of which were very sore, and also painful under pressure. We now applied pressure in the same way to these cervical and submaxillary tubercles on the side of the neck and the under-jaw, which produced the same kind of pain in them, which, at every repetition of the pressure, darted violently along the neck and under the clavicle into the upper portion of the right lung. We now applied pressure to the left side of the first vertebra, on a still smaller tubercle, and she screamed again, and pointed her finger to the spot *the pain darted to*, on the upper portion of the left side of the neck, and on examination, we found there a large submaxillary tubercle, and on applying pressure to this, the scream was again repeated, and she at the same time applied her hand to the left breast or mamma, and then pointed out the course of the pain from the tubercle along the neck and under the clavicle into the breast. We now examined it, and found it every where literally crammed with tubercles of the size of peas; the breast one-third larger than the right; color of the skin natural. The right breast flaccid every where, and neither gland nor tubercle to be felt in it.

The small tubercles along the right side of the other cervicle vertebræ were sore or tender, and pressure on the upper ones sent darting pains into the right side of the neck, and on the left side of the lower one into the region of the heart, and checked her breathing. Pressure applied now on the sides of the first, second, third, and fourth dorsal, produced pain which darted into the stomach; and on the second, third, fourth, and fifth lumbar, produced the most severe spasmodic pain, and darted violently into the uterus. Pressure on the sides of the other vertebræ produced no pain or effect whatever.

We now inquired at what time she first discovered tubercles or swellings on the side of her neck? She answered, about the first of June, or the first of July, her attention was first directed to one on the side of her face, in front of the ear, that was very sore, and at times painful, and that at such times there was "soreness along the chords" of the neck, but "never thought of examining there for tubercles." We now told her she must have white swellings of some of her joints or limbs, besides that of the neck and face, when she presented her left arm permanently flexed into an obtuse angle. On removing the clothing from this arm, it presented a white swelling of the elbow joint and arm. The swelling of the arm was united to that of the joint, and extended more than half way to the shoulder, and there was plainly felt along the under side of this swelling, or under and inner side of the arm, a large or wide ganglia of tubercles, extending from the elbow six or seven inches above it. These tubercles were of the size of peas, near the elbow, but became gradually smaller, and of the size of small seeds where they were lost in the upper part of the swelling.

We inquired now whether she had any other swellings about her, when she answered, "no, that's all," but I told her it would not do,—she must have white swellings of the limbs and joints of the right side, as well as of the left; and after viewing me for a moment with an expression of hesitancy, she began to make preparations to show me her right leg. It was swelled from the ankle to the knee, and had an elastic and puffy feel, and I plainly felt along the front and sides of the tibia, small tubercles from the size of small seeds to that of a small pea. She now told me she would show me the other one. It was swelled, and in all respects like the right leg.

Diagnosis, tubercula of the uterus, both legs, left arm, left breast, heart, stomach, right lung, cavity of the ear, right lobe of cerebellum, right side of the neck, upper jaw of right side, and right tonsil.

On applying the stethescope to the region of the heart, we found its action strong, and it appeared to strike hard against the ribs, but its sound was subdued or muffled, and its action was felt and heard under the clavicle of the right side, very nearly as plainly as in its own region, but could hear it very slightly under the left clavicle, and left and right side of the back. The respiration was natural in every part of the chest, except in the upper portion of the right lung, where it was very slight, and at times inaudible. Diagnosis by stethescope: Hypertrophy of the heart and tuberculated upper and front portion of the right lung.

We now inquired into the history of this case, which is as follows:---

The disease commenced about three years since, when she was living in Cincinnati, and soon after an attack of cholera, with the usual symptoms of chlorosis. Her catamenia commenced when she was fifteen, but appeared but twice during that year, and only two or three times a year since that time, and then only from the influence of medicine, up to the first of December, 1833, when she was married.

Previous to her marriage, they had been absent eleven weeks, but appeared in a day or two after, and have re-appeared since that time oftener than before, in a proportion of about two to one, but have always been very slight or small in quantity. About three years since, a discharge commenced from the uterus which was adhesive, and of a white or milky color, and after few months became of a yellow color, with cheesy matter or flocculi, and has continued to this time. Her feet and ankles began to swell about six months after the discharge commenced, and about a year from that time, her legs began to swell and be painful. Her back became very weak soon after the discharge commenced, and has continued so to this time, and she has frequently more or less pain along the lumbar vertebræ. About the middle of December, 1833, and two weeks after her marriage, her left arm began to swell and be painful, and in the first part of June last, her left breast began to swell, and she soon began to feel darting pains in it at intervals of from one to five or six days, which still continue, and are gradually becoming more frequent and violent. In the first part of July last, her right ear began to swell, was very red, and soon became very painful, and the pain extended through the cavity of the ear into the right and middle portion of the head, and in three days the swelling of the ear subsided and left a tubercle of the size of a pea, on the upper side of the jaw, near the ear; but the pain in the internal ear and head has continued with intervals of ease. On the 10th of Nov. last, this tubercle began to enlarge, and to be irritated; and the external cervicle and submaxillary tubercles of the same side began to increase in size, and to be painful, and soon after the throat, with the gum of the upper-jaw of the right side became sore and painful; and in a few days after, the right side of the neck, with the lower and upper-jaw, began to swell, and with the ear and right side of the head became very painful. Her heart began to beat very hard about the last of November, and this strong or hard beating continues. On the 26th of December she began to cough and expectorate, and this cough and expectoration continue.

Her stomach, from the commencement of the disease in the uterus, has been more or less disordered with first mild and then acute symptoms of dyspepsia: bowels confined.

The marasmus has been slow but constant, and is now much advanced, with flaccidity of the muscles.

The disease, it will be seen by the history of this case, was traced with great accuracy to the different organs and limbs. It was then in an active state, in consequence of a cold; for when we repeated the examination, about two weeks from that time, after the cold had subsided, and the disease had consequently become passive, the pain produced by pressure did not dart into the diseased organs as before.

We can, therefore, not only determine the character of the disease by these symptoms, which are constant in all the cases, but we can determine whether it is in its active or passive state, in patients of all ages and conditions, without any previous knowledge of them.

When the disease commences in one organ or limb, it is frequently propagated to the other organs or limbs, as is seen in this and the following cases :—

Mrs. T. S., aged 31 years. She came to see us August 14, 1836, and says she has been out of health about five years. The examination in her case was commenced as usual, by an examination of the spine, and first of the first cervical vertebra.

Pressure on a small tubercle of the right side of it produced severe pain, which darted into the right side of the throat, and right side of the head. Pressure on the right side of it produced pain, which darted into the left side of her throat. Pressure on the sides of the second joint also produced pain, which darted into the upper and front part of the neck. Pressure on the 2, 3, 4, and 5 dorsal, produced severe pain, which darted into the stomach. Pressure on the right side of the 7, 8, and 9 produced severe pain also, which darted into the region of the liver. Pressure on the 3 and 4 lumbar dorsal was painful. Pressure on the other cervical dorsal and lumbar vertebræ, produced no pain or effect whatever.

We now examined the line of glands along the neck, and under the jaws, and found them very much enlarged, and told her that her tonsils and palate were enlarged, and that she had the dyspepsia, chronic disease of the liver and leucorrhœa, besides swellings of some of her limbs.

She said that was right, and that the disease commenced in the uterus five years before, and about a year after it commenced in her liver, and in a few months after that, in her stomach; and that it was now nearly three months since her ankles and legs began to swell. It is now a year since her catamenia disappeared, and they have not since returned. On examining her throat, found the tonsils and palate very much enlarged, and the tongue one-third larger than natural. The tonsils are very sensible to pressure, and have, with the palate and rest of the throat, a dark red color, and during the last few weeks the act of deglutition, or of swallowing solid food, has been difficult and painful. She has had more or less pain in the right side of her head with dizziness, during the last few months. She is also very pale, feeble, and emaciated.

Mr. W., merchant, aged 28 years, called upon me May —, 1836, who told me he had been out of health a number of years, and had been growing much worse during the last few weeks.

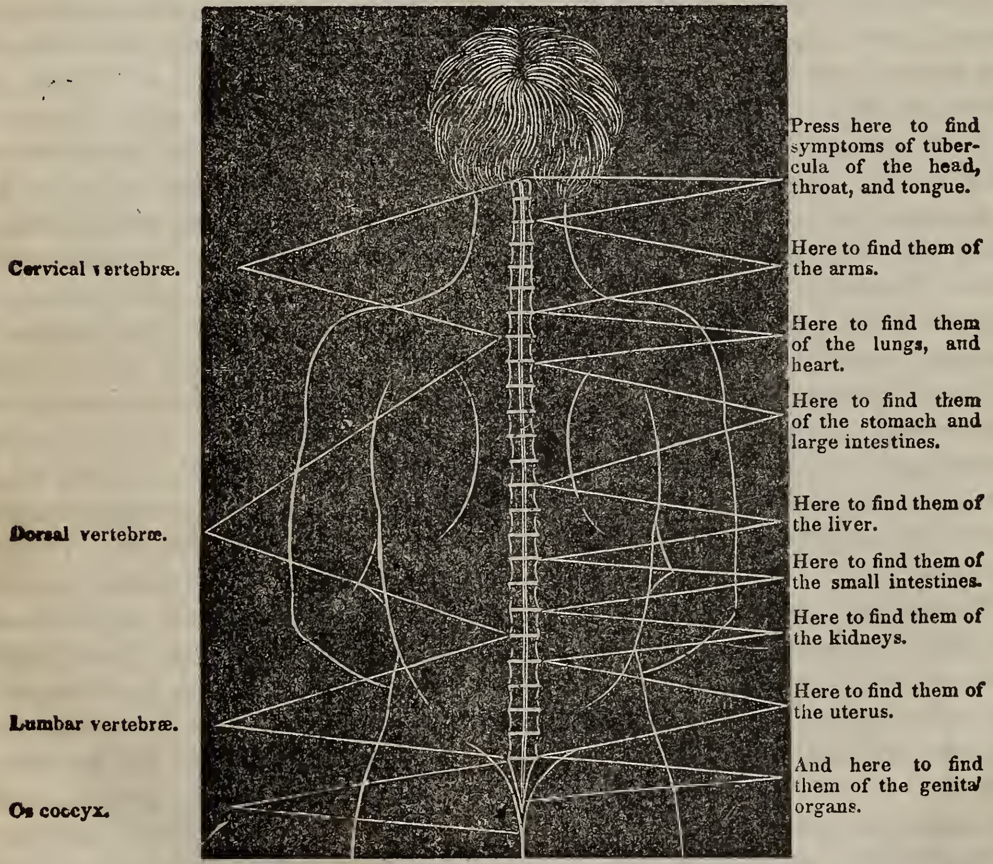
On applying pressure to the 2, 3, and 4 dorsal it produced a dull pain in these vertebræ. Pressure on the right side of the spine, between the 7 and 8 and 8 and 9 dorsal, produced the same kind of pain. Pressure on the right side, between the 12th dorsal and first lumbar vertebræ, produced severe pain, which darted into the region of the right kidney, showing the disease in an active state in the last organ, and in a passive state in the liver and stomach. There also appeared to be a swelling along the right side of the spine, extending from the 9th dorsal to the 5th lumbar vertebræ, which had a puffy or elastic feel, and on comparing this with the left side of the spine, this swelling and puffiness was very conspicuous. Diagnosis: Tubercula of the liver, stomach, right kidney, and spine.

The disease, he informed me, commenced in the liver about three years before, and that it was about a year since it commenced in his stomach, and three weeks since it extended to his kindey, and gave him the most serious alarm for his safety. He has, as usual in such cases, consulted and employed a number of physcians in this case, and rigidly followed their prescriptions, and yet the disease in the liver continued to grow worse—was extended to the stomach, and has now extended to the right kidney, and right side of the spine.

These symptoms point to the disease in every other part of the system that may be tuberculated, in the most arbitrary manner; as in these cases without any regard to the classification of nosologists, or the pedantic theories of the schools.

They are the natural and scientific symptoms of the disease in its active and passive state in the organs—they are produced by natural causes, and are very plain, *invariable*, and easily understood.

When the disease has commenced in one organ or limb, it is frequently propagated from that to another organ or limb, as in the case of Mrs. J. P—cases in which it is propagated from the tonsils and uvula to the lungs, and from the stomach, to the lungs, and from the liver to the stomach, and from the uterus to the ankles, legs, and stomach, are very common


Cervical vertebræ.
Dorsal vertebræ.
Lumbar vertebræ.
Os coccyx.
Press here to find symptoms of tubercula of the head, throat, and tongue.
Here to find them of the arms.
Here to find them of the lungs, and heart.
Here to find them of the stomach and large intestines.
Here to find them of the liver.
Here to find them of the small intestines.
Here to find them of the kidneys.
Here to find them of the uterus.
And here to find them of the genital organs.

In distinguishing the disease, and in tracing it in the different organs and limbs, we commenced and pursued the examinations as detailed in the cases appended to this work as we commonly do, without any previous knowledge of them. Any person of common education and capacity may easily distinguish the disease in the same way, in any of the organs or limbs.

In examining patients with chronic diseases, it should not be forgotten that the disease is sometimes in an active, but *most commonly* in a passive state. If the disease were constantly in an active state, patients would die with it in a few weeks, like those with acute diseases, instead of living as they do months, and sometimes years. We can always tell, in an instant, whether it is in an active or passive state, in the organs, by pressure in the proper places on the spine. If the disease is active, the pain produced by the pressure will dart into the diseased organ with a violence proportioned to the intensity of the disease, but if it is in a passive state, pressure produces pain in the spine only which does not dart into the diseased organ as in its active state, but is more or less severe in proportion to the progress of the disease.

In many cases of the disease affecting the different organs, pain more or less severe is felt along the vertebræ, when none is felt in the diseased organ. We frequently find the same phenomenon in disease of the hip joint, where the pain is in the knee instead of the hip.

Patients consequently refer the disease to the place where the pain is felt, and some physcians who have no more knowledge than they, agree with them, and apply their remedies to the same place. Large blisters have been applied to the knee, and cupping, blistering, setons, issues and the moxa to the spine in such cases without mercy during many months, and an enormous amount of suffering has been frequently inflicted in this way with little or no benefit to the patient.

These symptoms are magnetic, for when we press on the ganglions of spinal nerves, in the active state of the disease, and the pain produced by pressure darts into the diseased organ, a *force* passes into the organs, and consequently produces pain in it, and that force is magnetic.

* * *

ARTICLE III.

Recent European discoveries in Tubercular Disease.

In the preceding article, the editor has presented three cases out of many thousands that have occurred in his own practice during the last thirty years, to illustrate the symptoms of tubercular disease, upon which his peculiar mode of treatment has been founded. If those symptoms and that treatment have remained, for so long a period, comparatively unknown to, and unacknowledged by the profession in general, it is to their prejudices and their attachment to the old visionary theories and practice of the schools, that the consequences must be charged; for he has published more than fifteen thousand copies of several works which he has written upon the subject, and transmitted them far and near.

It is due, however, to some of the members of the profession, to state, that their intelligence and candor have already, within a few years past, cleared away much of the dense mass of bigotry and hostility which surrounded them, and opened a fertile field of extensive usefulness. To those enlightened and liberal coadjutors, scarcely less than to the editor himself, it must afford a high and cheering satisfaction, to see exhibited, to the whole medical world, so triumphant a confirmation of the truth of their theory and practice, as is obtained from the recent discoveries of several of the most distinguished physicians and anatomists of Europe. And first for the direct connection which we have claimed between the posterior spinal nerves and the organs, we extract the following notice from a late number of the London Lancet

[ANATOMY OF THE GANGLIONIC NERVES.]

The researches of Volkmann and Bidder have confirmed—what, indeed, the march of science had previously caused to be little doubted by physiologists—that the ganglionic or sympatheticis not a mere offset from the cerebro-spinal nervous system, but an independent system of itself. The above anatomists have, by the aid of the microscope, verified a great difference in the arrangement of the nervous fibrillæ in the two systems. The fibrillæ of the sympathetic nerves are distinguished from those of the spinal cord, by being paler, thinner, and containing less granular matter. Collected in bundles they have a greyish-yellow tinge. Where they communicate with the spinal nerves, the fibrils of each system of nerves may be distinctly traced by the aid of the microscope. Those of the sympathetic system are seen not only to penetrate to the centre of the spinal nerves, but to spread themselves around the circumference of the latter, where, by a careful measurement, the greater number are found to be distributed. If the sympathetic nerves originated from those of the spinal cord, say Volkmann and Bidder, we ought to find fibrils belonging to them in the roots of the spinal nerves. Now, if these roots be examined, scarcely one *sympathetic* among fifty medulary fibrils will be found; though they ought in such a case to be met with there in greatest number. *The sympathetic nerves in reality originate in the ganglia;* but not only in the ganglia of the sympathetic cord, but those also on the *posterior branches of the spinal nerves.* These latter ganglia especially give origin to the sympathetic filaments destined to unite with the posterior ramifications of the spinal nerves, a fact which gives probability to the hypothesis of Weber respecting the use of the spinal ganglia.—*Froriep's Notizen,* xxxi., 20.

Now, we many years since discovered, with the magnetic symptoms, (by which tubercular disease is distinguished in little children, with the same certainty as in adults,) a direct connection between the posterior spinal nerves, and the ganglionic or sympathetic system of nerves, connected with the organs, which connection, has been constantly denied by the advocates of the ridiculous notion of referring tubercular disease of the organs, to "spinal disease," "spinal irritation" "nervous affections of the spine," "spinal neuralgia," &c., with all their horribly torturing appliances. We also traced this connection with *clairvoyants*, and Volkmann and Bidder have now traced it with the microscope, and as this connection is now confirmed by foreign authority, it will be taught in our medical colleges, in connection with the magnetic symptoms, as soon as the conceited professors of these schools can be replaced by men who have talents and industry to keep pace with the improvements in our profession. The quackery which these professors have practised and disseminated in their lectures, and the amount of suffering they have inflicted upon their patients, while they were literally groaning under the weight of their knowledge of "SPINAL DISEASE"—"SPINAL IRRITATION"—"NERVOUS AFFECTIONS OF THE SPINE"—"SPINAL NEURALGIA," &c., which it is now seen were never favored with a real existence, is absolutely appalling; yet they have the vanity to establish rules of practice, and the barefaced effrontery to denounce every physician who varies from them.

In confirmation of the views which we have so long maintained on this continent, of the general prevalence of tubercular disease in the organs and limbs, against the combined influence of the professors of our colleges, we present the following abstract of the second lecture of M. Lugol of Paris, on Scrofula.

Tubercles in particular Organs.—The consideration of this part of the subject belongs rather to Pathological Anatomy. The diagnosis of tubercles in particular organs, *is very difficult* at least in the first period of their existence.

When tubercles exist in the sub-cutaneous regions, the mere local examination of the part at once enables us to convince ourselves of their presence, although, as we have already stated, these morbid productions develope themselves gradually *without pain*, and without swelling of the surrounding parts, in a word without giving rise to any perceptible phenomena.

When, therefore, we consider, that sub-cutaneous tubercles only become manifest during the first stages of their existence, because they are external, we can easily understand how it is, that in the mediastinum and the parenchymatous organs, this source of diagnosis being closed, it should be, always difficult, and *often impossible* to recognize their presence.

Tubercles may exist in parenchymatous organs, may even partly *annihilate them without their existence being revealed by any external symptoms;* or if they are discovered it is at an advanced period of their existence, when they have so far progressed that treatment is no longer of any avail. In such cases it can scarce be said that the malady has been recognized during life; *they* belong in reality to Pathological Anatomy.

Our want of success in the use of the ordinary means of diagnosticating tubercles, proves that those means are inadequate, that we follow an erroneous course in our investigations, and that we must resort to new modes if we wish to be successful.

When pulmonary tubercles are suspected, we resort to auscultation and percussion, but in many cases these fail us, even when numerous tubercles are disseminated through the lungs, and for this reason it is that many physicians, after having greatly exaggerated the value of the stethoscopic signs, now declare them of little value, at least during the first stages of the disease. There is here another mode to which we may resort, induction; for instance, a patient complains for some time of slight pain and uneasiness in the thoracic cavity, we resort to auscultation and percussion, the resonance of the thorax is every where normal, pulmonary expansion free and easy, respiration perfectly natural, and guided by these data the physician declares that there are no tubercles in the lungs. But *he is deceived*, the method of investigation which he has followed has been inefficient. If we consider that the patient is born of tuberculous parents, that he has lost brothers or sisters from phthisis, or that they are suffering from cervical tubercles, white swelling or other scrofulous affections, that his health is delicate, his growth has been deficient, in a word, if we consult with care antecedents and coincidences, we shall acquire the conviction that his lungs contain tubercles, although *auscultation is powerless to demonstrate their presence.*

One of two things happens, either auscultation agrees with the data furnished by induction, then it affords a valuable concurrent testimony, or it disagrees, and then I think we should follow induction as less likely to deceive us. Especially would I rely on the evidence of hereditary taint

Tubercles in the Brain.—Out of four cases, in which tubercles were found in the brain after death, there were two in which symptoms were noted which might be referred to their presence, but in the other two, though the lesions were more serious, no signs revealed the tuberculous disease. In one of these cases, the left hemisphere had nearly disappeared, being replaced by a cyst filled with tuberculous matter. It is remarkable that the brain should undergo such extensive alterations *without any external symptoms*, informing us of the gravity of the lesions which had taken place in its substance.

It is equally difficult to ascertain the presence of tubercles in the cerebellum, in most cases indeed their existence is *not even suspected.* M. Lugol has met with several instances in which tubercles as large as a *walnut or a horse chesnut*, have been found in the cerebellum, in subjects who presented during life no indication of encephalic disease. One of the cases he relates in illustration of this fact, is interesting in a physiological point of view. A young girl, though 17 years old, presented no indications of puberty, the breasts and genitals were completely rudimentary. The head was always thrown backward, and it was only by an effort of the will that it could be brought forward.

M. Lugol has seen tubercles in the tuber annulare, (pons varolii, *l*, fig. 4) without any symptoms.

Tubercles in the Lungs.—In the lungs, tubercles are so commonly met with, that M. Lugol believes it to be a rule having very few exceptions, that they always co-exist in that organ with other scrofulous disease, if the patient have attained to the age of puberty. They may appear very early in life, and *obstinate cough in children* sometimes depends on their presence. The period of life at which they are most commonly developed is the few years after puberty. At this period we too often observe in scrofulous patients the terrible array of symptoms which characterize phthisis.

Puberty then is the time at which tubercles in the lungs most commonly appear, and this is a rule so general, that in the only three cases in which M. Lugol recollects having assured himself of the absence of tubercles from the lungs of scrofulous patients of adult age, the organic signs by which puberty is commonly manifested were entirely absent. Scrofulous patients, however, occasionally advance in years, without any manifestations of tubercles in the lungs, and it happens sometimes, though rarely, that at that period the symptoms of scrofula gradually diminish, and finally disappear entirely—but the predisposition still exists and the malady may return sooner or later. Sometimes the invasion of tubercles in the lungs is sudden, and their generation progresses with frightful rapidity. This form of phthisis is rapidly fatal. This may be assimilated to what occurs in the cervical region.

Tubercles in the lungs *follow precisely the same course as elsewhere.* At first disseminated in the tissue of the lung, they gradually converge as they increase in size, and uniting, form *tuberculous masses.* These when they soften and are evacuated, leave behind them *tuberculous caverns*, which are cavities in the substance of the lungs, the walls of which are formed by pulmonary structure or by what remains of the tuberculous matter. When a tuberculous mass empties itself into the bronchius, and is rejected by expectoration it constitutes a *vomica.* It is just possible that one of these caverns may heal, but even if they do, other tubercles remain, or if not, the predisposition to generate tubercle still remains, and in nearly every instance the patient will eventually fall a victim to the disease.—These cavities become the seat of a more or less abundant tuberculous suppuration, this is of course absent till the tubercle has made its way into the bronchius. We shall here only allude to the existence of a trachael, pleural or costal fistula, the history of these does not belong to our present subject.

On examining the lungs of a patient who has died with tubercles, we are often tempted to ask ourselves, why did not this patient, in whom so large a portion of the lungs is destroyed, and what remains is so compressed and condensed that it is no longer capable of receiving air, die of asphyxia? It is evident that they cannot be said to breathe by the lungs, for a long period before they die; now in such cases, which of the organs takes the place of the pulmonary tissue? M. Lugol had no facts which authorize him to attempt an answer to this difficult question. The presence of tubercles in the lungs may coincide with an otherwise healthy state of the organs; indeed M. Lugol questions whether the lungs may not be healthy even in the advanced stage.

From all that has been said, it results that pulmonary tubercle is in fact but tuberculous scrofula. This is the position which the disease ought to occupy, and pathologists would *never*, in all probability have attributed phthisis to *inflammation* if they had studied it as *what it is*, a manifestation of scrofula.

Nor would thousands have been hurried into their graves, as they have been every year with rail-road speed, if phthisis or consumption, had not been treated as inflammations, by bleeding, antimonials, cathartics, blisters, &c. &c. Hundreds of these, would have been saved every year, by nature alone, from the change of seasons, who are now mouldering in their graves, the victims of the scientific quackery of the schools.

Tubercles in the Liver, Kidneys, Ovaria, and Testes—The liver is often found to have undergone the fatty degeneration in scrofulous patients, but it is not often the seat of tubercles. They are rare in the biliary ducts, though M. Lugol has seen one the size of a large walnut in the cystic duct. They are more common in the spleen than in the liver, and when they co-exist in these two organs, those in the spleen are most advanced. M. Lugol has never seen tubercle in the pancreas. In the kidneys tubercle is common, it invades both the cortical and the tubular portions, and sometimes acquires the size of a walnut. There are seldom more than three or four. M. Lugol has seen *tubercle* in the *ureters.* He has only once seen it in the ovaries, when it co-existed with tubercle of the folds of the mesentery, the cerebellum and the lungs. Tubercles in the testes are not uncommon.

Tubercles in the Muscles, Bones, and Blood Vessels.—Tubercles may be generated in the muscular as in other tissues. M. Lugol has however only seen it in the psoas, in that case, the tubercle was in the midst of the muscle. There was no lesion of the bones in the neighborhood, the tuberculous matter had evidently been generated there.

More than twelve years ago, M. Lugol satisfactorily demonstrated the existence of tubercles in the bones, developed in the osseous tissue and increasing as tubercle does elsewhere at the expense of the tissue in which it is developed. They have been found in the centre of bones surrounded by healthy osseous structure. Tubercles are often developed around large blood vessels, but that dropsical effusions so common in scrofulous diseases, depended on the pressure of these tumors upon the vessels, M. Lugol has not been able to convince himself. He has never known one of these tuberculous tumors penetrate the coats of the vessel around which it was developed.

Tubercles in the Blood.—M. Lugol has found tubercles swimming in the blood of the iliac veins at the origin of the vena cava. It was impossible to admit that the tubercles had originated externally to the vessel. They were of an ovoid form, ten in number.

Having now studied tubercle in the different organs, we pass to the consideration of

The Formation of Tubercles.—Pathologists are by no means agreed upon this subject, some believe tubercles the product of inflammation, others a product or an alteration of secretion, others again a degeneration of the normal tissues. M. Lugol regards tubercles as *parasitical organs* generated in the economy with an organization which enables them to increase by intusseption, so that their progressive developement is explained by their anatomical structure. Tubercles are not the normal tissue degenerated, else during their first stage we should be able to recognize the tissue which is undergoing the morbid change, but this is not so, wherever generated, tubercle is in every thing but form, the same; the organ in which it is developed never modifies its nature.

M. Lugol, however, I may say with great deference to his opinion, is mistaken in the true character of tubercles. They are, as I have found them by numerous dissections, diseased lymphatic glands, and the new symptoms I have introduced to distinguish this disease, and which depend entirely on the motive power of the system, demonstrate this fact in the clearest manner.

As to the doctrine which attributes tubercles to inflammation, it deserves a more detailed notice.

Inflammation is a peculiar and complex state, having some symptoms which are inherent in its nature and essential, and others which vary according to its particular location. Now the products of inflammation differ in different organs and tissues. The liver does not suppurate as the lungs do, nor the serous as the mucous tissues. Tubercles on the contrary, are as we have said *always identical, never varying,* whatever organ they may attack. The generation of tubercles has been most studied in the lungs, let us examine it there in reference to inflammation as its cause. Pneumonia is a common disease, so common that did there really exist any connexion between it as a cause, and the generation of tubercles as an effect, that connexion would assuredly be discovered. But this is not the case. Nay more, the labors of Bayle and other pathologists prove that pneumonia has no connexion whatever with the generation of tubercles. Bayle examined the bodies of numerous patients dying with pneumonia; he found the lungs hepaticised, carnified, but never tuberculous. Again, epidemic pneumonias are by no means uncommon, and where they have prevailed, a great mass of the population ought to be affected with tubercles, yet this has never been noted as a consequence of epidemic pneumonias by any of the authors who have left us descriptions of them.

M. Lugol hesitates to allow pneumonia any influence even in augmenting the secretion of tubercle, his facts however, do not authorize him in pronouncing a positive opinion. He thinks that many pathologists have attributed pulmonary tubercle to inflammation, who never would have thought of adopting such an etiology, for any other form of tubercle, as tubercle in the liver, the spleen, the mesentery, &c.—*Med. Gaz.*

The following are extracts from M. Lugol's fourth lecture on the formation of tubercles in internal organs:

" The numerous checks and *repeated deceptions* to which physicians are daily exposed in the DIAGNOSIS and TREATMENT of tuberculous diseases, do they not prove that it is necessary to leave the beaten track of inquiry and pursue some other which is less fallible? You all know that auscultation and percussion are useless in the diagnosis of pulmonary tubercles.—Both alike insufficient to announce the commencement of the mischief, they are superfluous at the very time that they become capable of indicating the presence of tubercles; for then these are discoverable by other means, and alas! are too far advanced in their development to warrant our hopes of arresting their progress—at least in the generality of cases. I will even go a step farther, and say that the unlimited confidence placed by the greater number of practitioners of the present day in auscultation and percussion, has had the effect of too often inspiring a *fatal* security in many tuberculous diseases, which are thereby allowed to advance in their progress, until this is revealed by physical phenomena at a period when remedial measures have but little chance of effecting any good.

But what are the means, you will say to me, that are to be substituted in the room of auscultation and percussion? I answer, gentlemen, induction. Examine by these boasted methods this patient, and tell me what results you obtain. Negative results you will reply. And yet I maintain that he is tuberculous; for his father, his mother, and his brothers, have all died of tuberculous disease; and he himself is affected with it in his chest at the present moment. Believe me, this plan is much less deceptive than the other one. I tell you, the inductive method cannot mislead you; for nature is invariable in its causes as in its effects; and the external signs of tuberculous scrofula must give you assurance that similar morbid productions exist in internal organs, especially in the lungs.

M. Lugol is mistaken in regard to the certainty of this method; for nothing is more common than to find all the external signs of tuberculous disease, without tuberculization of the lungs, and this fact is disclosed by the absence of the magnetic symptoms, while their presence gives the first notice of the commencement of the disease in the lungs even before the cough commences.

"It is by viewing the question from this elevated point of view, by studying it in all its *ensemble*, that you will be best enabled to comprehend it in its details; and these cannot be understood by the special methods of examination which have been so much recommended of late years.

The tuberculization of internal organs exhibits in its development the same phenomena as tubercles which are outwardly situated—there is no pain and nothing of mechanical derangements.

The existence of tubercles in the lungs is so frequent, that I must admit that they are present in all scrofulous persons. You know that all, or almost all patients, who have pulmonary tubercles. are, or have been at some time, affected with tubercles in the neck; the majority have had during infancy this external sign of scrofula; while others have had it at a later period of life. I believe that pulmonary tubercles frequently exist in early youth, but it is frequently about the age of puberty that they are apt to be developed. Puberty in truth seems to have a fatal specific influence in promoting their development; and in our wards at the present moment there is a case which seems to confirm this opinion. A scrofulous patient, who, although 22 years of age, exhibited none of the usual characters of marriageableness, has just died, and in him no tubercles were found in the lungs.

To the *Royal Medical and Chirurgical Society. Jan.* 25 1842. Dr. Williams, President, in the Chair, the following facts concerning Tubercles of the Brain in children, with a Tabular View of 30 cases of the affection, was communicated by Dr. T. H. Burgess.

An analysis of 30 cases of tubercle of the brain is laid before the society by the author, preparatory to a more extended communication on this subject, which he promises to afford.

After noticing the importance of extended post-mortem researches, with a view to the pathology of the brain, so as to comprehend lesions of the medulla oblongata, he concludes with some general remarks on his Tabular View. In his 30 cases, the ages he observes, varied between 19 months and 12 years.

With respect to sex, 14 were boys, 16 girls.

In *four* cases, no cerebral symptoms existed during life; in two, only periodical head-ache: in two, deafness and purulent discharge from the ear. In the remaining cases, head-ache, vomiting, amaurosis, convulsions, weakening of intellect, were observable; the duration of this chronic state varying from *one* month to *three* years.

Nine died with acute hydrocephalic symptoms, a few with symptoms of softening, the rest of consumption, small-pox, &c.

The number, volume, and site of the tuberculous masses, varied considerably in different cases.

A discussion took place, relating chiefly to the degree in which the pathology of tubercles in the brain was known in England; Dr. Addison, particlularly, stating that he believed the disease was so familiar to practitioners, that in many obscure chronic affections of the brain it was almost confidently expected that tubercles would be found either in the substance of the brain or in its membranes.

These are all cases of children. The disease in the brain is besides very common in adults, as we always have cases of it on hand, which yield to the influence of the magnetic remedies, as it does when affecting other organs. Very little, however, is known of the pathology of tubercles in the brain in this country. There are even professors of the theory and practice of physic in our Medical Colleges, who have often exposed their ignorance by denying the existence of tubercular disease of the brain, "except in *extremely* rare cases."

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ARTICLE IV.

The Sequel of Homœopathy.

Professor Hahnemann divested himself of the shackles which bound him to the old visionary theories and routine practice of the schools, and undertook to effect a most important object by the most extraordinary means. His object was a revolution in the theory and practice of physic. This he avowed; and he supported its necessity and importance with great ability; but the means by which he intended to effect it, like the general who contemplates storming an enemy's camp, he kept a profound secret. His enemies in the distance, as well as his most obsequious proselytes, were equally in the dark, and while the first were amused, the latter were astonished at the novelty and profundity of his pretended expedients to demolish "the old allœopathy castles in the air." He had too much good sense to think for a moment, of attacking these ærial fortresses with "gross inanimate matter," after he had seen in the clairvoyant or somnicient state, the astonishing effects of the "spiritual, self-moved, vital dynamic power, which moves our systems, and preserves them in harmonious order."

Besides this knowledge of the moving power of the human system, that of the identity of the magnetic or spiritual forces of nature with the powers of medicine, was one of those discoveries which he considered too far in advance of the intelligence and candor of the age to be entrusted to the rude resistance of established prejudices; and, therefore, in imitation of the wise examples of antiquity, he cautiously veiled it, under the specious garb of the magical effects of infinitesimal doses of medicines, for the purpose of preserving its advantages through this, to a more enlightened and liberal period.

The following are the corollaries on which he founds his theory, and practice; his other corollaries being chiefly intended to veil his discovery in its application to practice, by the gratification of the marvellous propensities of his readers; and while he depends entirely on the action of the magnetic or spiritual forces, which he condenses in his homœopathic doses, for the success of his system.

Prelude.

"To presume that disease (non chirugical) is a peculiar and distinct *something*, residing in man, is a conceit, which has rendered allœopathy so pernicious."

Corollaries.

1. "During health, the system is animated by a *spiritual, self-moved, vital power*, which preserves it in harmonious order." That is, it is magnetized, with the forces in equal proportion.

2. "Without this *vital dynamic power*, the organism is dead." Or, it is unmagnetized.

3. "In disease, the *vital power* only is primarily disturbed, and *expresses its sufferings* (internal changes) by abnormal alterations in the *sensations* and *actions* of the system." Or one of the forces predominates.

4. "By the extinction of the totality of the symptoms in the process of cure, the *suffering* of the *vital power*, that is the entire morbid affection, inwardly and outwardly, is removed."

5. "The *sufferings* of the *deranged vital power*, and the morbid symptoms produced thereby, as an indivisible whole, are one and the same."

6. "It is only by means of the *spiritual* influence of the morbific agent, that our *spiritual vital power*, can be diseased, and in like manner, only by the *spiritual* (dynamic) operation of medicine that health can be restored."—Organon of Medicine, xviii.

The following extracts from his "Organon," will bear conclusive evidence of the fact, that he does not depend on the natural quantity of the spiritual or magnetic forces in their medicines to cure diseases.

1. "It is only by the use of the *minutest* homœopathic doses, that the reaction of vital power shows itself, simply by restoring the equilibrium of health. p. xx.

2. "But the signs of amendment furnished by the mind and temper of the patient, are never visible (shortly after he has taken the remedy,) but where the dose *has been attenuated to the proper degree*—that is to say, as much as *possible*. A dose stronger than necessary (even of the most homœopathic remedy) acts with too great violence, and plunges the moral and intellectual faculties into such disorder that it is impossible to discover quickly any amendment that takes place. p. 193.

3. "A judicious physician will confine himself to an internal application of the remedy which he has selected as homœopathically as *possible*, and will leave the use of ptisans, little bags filled with medicine herbs, fomentations of vegetable decoctions, washes, and frictions with different species of ointments, injections, &c., to those who practice according to routine." p. 202.

4. "The best mode of administration is to make use of small globules of sugar, the size of mustard seed; one of these globules having imbibed the medicine, and being introduced into the vehicle, forms a dose containing about the three-hundredth part of a drop, for three hundred such globules will imbibe one drop of alcohol; by placing one of those on the tongue, and not drinking any thing after it, the dose is considerably diminished. But if the patient is very sensitive, and it is necessary to employ the smallest dose possible

and attain at the same time the most speedy results, it will be sufficient to *smell* once."—p. 207.

It would be easy to add a great many repetitions of the same declarations in different forms, but these must be abundantly sufficient to satisfy even the greatest skeptic; for it is impossible in the very nature of things, that such minute doses of medicine should produce such effects, or any effect whatever, and this fact was well known to Hahnemann. He indeed says so in the above extracts, in the strongest language he could use, without expressing it in so many words, and thereby expose the object he wished to veil.

Let us now see if we can ascertain by what means it was he communicated to his homœopathic medicines a power which, it is conceded, sometimes, at least, produces the magical effects he describes, and which are claimed for it by homœopathists; and for this purpose it will only be necessary to select and place before the reader a few extracts from the same work above quoted.

"The homœopathic healing art developes for its purpose the IMMATERIAL (DYNAMIC] VIRTUES OF MEDICINAL SUBSTANCES, and to a degree previously unheard of, by means of a *peculiar* and HITHERTO UNTRIED PROCESS. By this process it is that they become penetrating, operative, and remedial, even those that, in a *natural or crude state*, betrayed not the *least medicinal power* upon the human system."—p. 199.

This, it will be conceded, is a very modest announcement for such an important discovery as that of magnetizing even inert substances, so as to give them a high and important remedial power; and from my knowledge of the subject, I cannot avoid entertaining a strong suspicion, that Hahnemann obtained his knowledge of this art, as well as that of the magnetism of the human system from some distinguished clairvoyant. But let us hear how he performs these operations.

"If *two* drops of a mixture of equal parts of alcohol and the recent juice of any medicinal plant be diluted with *ninety-eight* drops of alcohol in a vial capable of containing *one hundred and thirty* drops, and the whole *twice* shaken together, the medicine becomes exalted in energy to the *first* development of power, or, as it may be denominated the *first* potence. The process is to be continued through *twenty-nine* additional vials, each of equal capacity with the first, and each containing *ninety-nine* drops of spirits of wine; so that every successive vial, after the *first*, being furnished with *one* drop from the vial of dilution immediately preceding (which had just been *twice shaken*,) is, in its *turn* to be *shaken twice*, remembering to *number* the dilution of *each* vial upon the cork as the operation proceeds. The MANIPULATIONS(!) are to be conducted thus through all the vials, from the first up to the *thirtieth* or *decollionth* development of power, which is the one in most general use."

"All other medicinal substances, excepting sulphur, which, of later years, has been employed only in the highly diluted tincture (X), such, for example, as the metals, either pure, or oxydized, or in the form of sulphurets, and other minerals, petroleum, phosphorus, the parts or juices of plants, obtainable only in their dry or inspisated state, animal substances, neutral salts, &c.,—one and all were, in the first place, exalted in energy by attenuation in the form of a powder, by means of *three hours* trituration in a mortar, to the *millionth* degree. Of this *one* grain was then dissolved and brought through twenty-seven vials, by a process similar to that employed in the case of the vegetable juices, up to the *thirtieth* development of power." p. 200.

Hahnemann, it will now be seen, imparts power to, or magnetizes his medicines, as magnetists magnetize their patients; or, by a regular order of manipulations, which increase the power or potency of the medicines, directly as the number of their dilutions; the minimum increase being that of 1 to 100. It is difficult to conceive the minuteness of these doses in the thirtieth or decollionth degree "*in the most common use*" without the greatest exertion of the imagination, even when expressed in figures, thus:

1,000,000,000,000,000,000,000,000,000,-000,000,000,000,000,000,000,000,000,000,--000.

We find nothing more that is peculiar in Hahnemann's art of manipulation in the manufacture of his medicine, except that which is seen in the following paragraph.

"When I make use of the word *intimately*, I mean to say that by *shaking* a drop of medicinal liquid with ninety-nine drops of alcohol *once*—that is to say, by taking the vial in the hand which contains the whole, and imparting to it a *rapid motion*, by a *single* powerful stroke of the arm *descending*.* I shall then obtain an exact mixture of them; but that two, three, or ten such movements would render the mixture much closer—that is to say, they would develope the medicinal virtues still further, making them, as it were, more potent, and *their action on the nerves* much more penetrating. In proceeding therefore to the dilution of medicinal substances, it is *wrong* to give the twenty or thirty successive attenuating glasses *more than two shakes*, where it is merely intended to develope the power of the medicine in a moderate degree. It would also be well in the attenuation of powders not to rub them down too much in the mortar; thus, for example, when it is requisite to mix *one grain* of a medicinal substance in its entire state with *ninety-nine* grains of sugar of milk, it ought to be rubbed down with *force* during *one hour only*, and the same space of time should not be execeded in the subsequent triturations, in order that the power of the medicine may not be carried to too great an extent." p. 207.

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* We see clairvoyants in the somniscient state, magnetize water by the passes descending.

The common dose of the solution of the thirtieth or decollionth development of power is one drop, and in the dry state one globule; and these doses are generally repeated in from one to seven days. The action of these medicines is thus described by Hahnemann.

"The action of medicines in a liquid form upon the body, is so penetrating, it propagates itself with so much rapidity, and in a manner so general, from the irritable and sensitive part which has undergone the first impression of the medicinal substance to all the other parts of the body, that we might almost call it a *spiritual* (dynamic or virtual) effect.

"Every part of the body that is sensible to the touch, is equally susceptible of receiving the impression of medicines, and of conveying it to all other parts. Homœopathic remedies operate with the most certainty and energy by *smelling* or inhaling the medicinal *aura constantly emanating* from a saccharine globule that has been impregnated with the higher dilution of a medicine, and in a dry state, enclosed in a small vial. *One globule* (of which 10, 20 to 100 weigh a grain) moistened with the thirtieth dilution and then dried, provided it be preserved from *heat* and the *light* of the *sun*, retains its virtues undiminished, at least for *eighteen or twenty years*, (so far my experience extends,) although the vial that contained it had during that time been opened a thousand times. Should the nostrils be closed by coryza or polypus, the patient may inhale through his mouth, holding the mouth of the vial between his lips. It may be applied to the nostrils of *small children while they are asleep*, with the certainty of success. During these inhalations, the medicinal *aura* comes in contact with the *nerves*, which are spread over the parieties of the ample cavities through which it freely passes, and thus influences the *vital power* in the mildest yet most powerful and beneficial manner. All that is *curable by homœopathy* may with the most certainty and safety be cured by this mode of receiving the medicine. Of late I have become convinced of the fact, (which I would not have previously believed,) that *smelling* imparts a medicinal influence, as energetically and as long continued as when the medicine is taken in substance by the mouth, and at the same time that its operation is thus more gentle than when administered by the latter mode. It is therefore requisite that the intervals for repeating the smelling should not be shorter than those prescribed for taking the medicine in a more substantial form." p. 208.

Caution to Practitioners.

"The smallest homœopathic dose, when properly applied, effects wonders. It not unfrequently occurs, that patients are overwhelmed, by incompetent homœpathists, with a rapid succession of remedies, which though well selected and of the highest potence, yet produce such a state of excessive irritability, that the life of the patient is placed in jeopardy, and another dose, however mild, may prove fatal. Under such circumstances, *the hand of the* MESMERISER *gently sliding down*, and frequently *touching the part affected*, produces an *uniform* distribution of the *vital power* through the system, and *rest*, *sleep* and *health* are restored." p. 211.

How beautiful the description! how charming! and how astonishing the effects! not of infinitesimal doses of medicine, but of the hand of the mesmeriser, when the immaterial (dynamic) or spiritual virtues of his medicines fail! What art! What a magician! Hahnemann "frequently touches" his readers organs of marvelousness, and then "gently sliding them along" to the end of his work, when behold, poor puss is at last exposed to the glaring light of the sun. Hahnemann deserves, and fate has decreed to him, immortal honors, for his success in introducing, in a most adroit manner, against the indomitable prejudices of the age, so simple and so important an agent for often palliating and sometimes curing diseases in a safe and satisfactory manner.

Fundamental Errors in the Homœopathic System.

The following propositions are those on which Hahnemann's apparent or popular theory and practice is founded:

1. "Every curable disease is made known to the physician by its symptoms." (*The old ever-varying symptoms.*)

2. "The *morbid* symptoms which medicines produce in healthy persons, are the sole indi-

cation of their curative virtues in disease." (*similia similibus*, or, in vulgar phraseology, "the hair of the same dog.")

3. "The *totality* of the symptoms is the sole indication in the choice of the remedy."

These propositions, however simple and plausible they may at first appear, are nevertheless, in their application to practice, the most complicated, and most deceptive, that were ever, perhaps, presented to the human mind; and having disposed of Hahnemann's homœopathic doses of medicine, we propose to devote a few moments to the investigation of the pretensions of these propositions.

There never were propositions more apparently true in the abstract, and yet more positively fallacious in the practice; and no man was more aware of this fact than Hahnemann; for the number of the common symptoms of diseases is infinite, as well as the number of morbid symptoms medicine produces in healthy persons, and both are infinitely varied in different cases, and in the same persons at different times, as every physician knows; and hence the number of Hahnemann's pretended remedies are infinite, presenting in the whole, an infinitely varied and complicated system, and therefore an unnatural and erroneous one. He however, had no confidence in it, or in his "spiritual" or magnetic remedy for *all* diseases, and consequently wisely provided a cause for the disappointments of his proselytes, from the frequent failures of their homœopathic medicines, *in their own errors* in selecting the proper ones, for the *totality* of the symptoms.

The truth is, there are very few causes of disease, and the chief of those are atmospherical, uncleanliness, and intemperance; and very few symptoms (pathognomonic) which physicians should regard, and consequently they should prescribe very few remedies. These facts are now so well understood by men of sense and observation, as to induce them to regard physicians, and the latter one another, in an inverse ratio to the number of medicines they prescribe. And the soundness of these views is demonstrated in the clearest manner, in the unity of the true pathognomonic symptoms, and simple specific remedies in truly acute, and in a very large class of chronic diseases.

Hahnemann confounds the true symptoms of acute diseases with the sympathies they produce, and knew nothing of those of chronic diseases, which are truly magnetic and pathognomonic; nor of the great natural divisions of positive and negative matter; nor of the important therapeutical relations of the "spiritual" or magnetic forces with these great divisions of matter; nor of the natural laws of these forces which govern the human system. His theories, like those which have preceded them, are consequently founded on a medley of facts and fictions, and his practice empirical, like the old allœopathic practice of the schools. He has, however, shown that a great variety of different kinds of matter can be magnetized, and their natural distinctive qualities thereby greatly increased, and that therefore there may be truly "magnetic remedies." He has also shown the existence of intimate and important relations between magnetized remedies and the magnetism of the human system, and has consequently added much to our *knowledge*, as well as to the mortification of those who are constitutionally, as well as from motives of interest, opposed to such innovations.

There have been many explanations given of the action of Hahnemann's minute doses of medicine, by a number of Homœopathists at different periods, to all of which, many objections have been raised. The following from Professor Doppler, seems to have given the greatest satisfaction to these physicians.

Professor Doppler's Explanation of the action of Homœopathic Remedies.

The main points are briefly the following:—"The active strength of a medicine is not to be judged of according to its weight, but according to the size of its effective surface. The physical surface is to be distinguished from the mathematical one; the general physical surface increases by trituration of the medicine with another body (sugar of milk) in a greater proportion, than the diameter of the individual particle diminishes itself. Now, if we only consent to the hundred-fold diminution of an atom by each trituration, calculation will show, that the physical surface, after the third trituration, amounts to about two square miles, and that the small point of a knife full of the thirtieth trituration, offers a surface of many thousand square miles. If, therefore, the power of action is measured by the extent of surface, the apparent minuteness rises to a real and truly astonishing magnitude. The cause of the action of surfaces rests on the argument, that with the division of a body, electricity is developed, and that the quantity of free electricity increases in an equal ratio with the increased surface."

Jahr, the great and prolific champion of homœopathy, adopts this explanation or theory of the action of these medicines, which is, in fact, nothing more than another medley of facts and fictions. The active strength of a medicine should not be judged by its weight, nor by the extent of its atomic surface, but by the quantity of its distinctive properties in a given space, the action of which is increased by magnetizing the dormant forces in the atoms of the medicine in which they are condensed, as we do those of iron or steel, which is conformable to theory and observation. The amount of these innate and all pervading forces in iron and steel, is very great; yet their effect upon the magnetic needle, like the unmagnetized homœopathic doses upon the human system, is inappreciable until their power is developed by magnetizing, when it becomes very great, or is increased and expanded in direct proportion to the amount of the forces, in a given space, in the body magnetized.

In assuming this explanation to be, as it really is, mathematically correct, the veiled novice may be overwhelmed with astonishment, upon the first announcement of the fact that medicine, from the mineral, vegetable and animal kingdoms, as well as man, can be magnetized; yet there is nothing more certain; and these, with a great many other corresponding facts, establish the existence of a magnetic medium by which we are surrounded, and by which we are thus connected with the earth and even with the sun.

Sir H. Davy says, "Electricity (or magnetism) seems to be an inlet into the internal structures of bodies, on which all their sensible properties depend; in pursuing therefore, this new light, the bounds of natural science may possibly be extended beyond what we can now form any idea of; new worlds may be opened to our view, and the glory of the great Newton himself, may be eclipsed by a new set of philosophers, in quite a new field of observation." Sir H. supposed the heat of the animal frame to be engendered by electricity; taking it furthermore, to be identical with the nervous fluid.

Dr. Griffith has lately made some researches on the nature of molecular motions in substances impalpably divided. With respect to those occurring among particles of insoluble bodies in water, he denies that they are to be attributed, as has been supposed, to the evaporation of the fluid, inasmuch as they continued, when this process was cut off, by inclosing the fluids and particles between two pieces of glass, evaporation at the edges also being prevented by a rim of olive or almond oil, or lamp-black mixed with gold-size. He says :—(Med. Gaz.)

"I have examined a large number of inorganic substances powdered in a mortar to the finest powder, and have found no difficulty in detecting the *peculiar* motion in any substance save semi-fluid bodies, or solids which cannot be reduced to a sufficiently fine powder. The motion is quite destroyed by immersion in oil, thick gum, or syrup; here the viscidity of the liquids seems to prevent its taking place. It has appeared to me to ensue most readily in water, less so in spirit and least of all in either. The movement is *totally different* from that of particles which are moved by currents excited by evaporation. These latter hurl a number of molecules in vortices with great rapidity; in the true molecular movement the molecular *oscillate* or *vibrate*, moving but very slowly from place to place; in some cases we can clearly perceive a single molecule quite distinct from others and enjoying its own *spherical* movements." True molecular motion is due, 1st, to an extreme subdivision of the matter: 2dly, to a relation between the specific gravity of the molecule and the medium that shall admit its free suspension; 3dly to absence of all viscidity in the liquid. Under these circumstances any kind of matter, organic or inorganic, will exhibit this motion. The *cause* of the motion is yet *unknown*, it has not appeared, in the hands of Dr. Griffith, to be influenced by electricity.—*London Lancet*, *July* 8 1843.

The pecular oscillating or vibrating motions in these molecules or atoms, uninfluenced by currents, is conclusive in regard to the cause of the motion; there is no longer any room to doubt that it is magnetic—that these molecules are magnetized in the process of reduction to the atomic state; for besides the corresponding oscillating motions, the power of the innate unmagnetised forces in matter, is well known to be too weak to overcome the resistance of the magnetic medium which surrounds them, and produce such results.

* * *

Effects of Galvanism known to the Ancients.

(*From the London Lancet, Saturday, July* 29, 1843.)

In calling attention, as we last week promised to some of the "OLD FRIENDS WITH NEW FACES," to whom we then referred, we shall for obvious reasons, not follow any exact order of presentation, but shall introduce them in chronological succession, or in the sequence that is best suited to the illustrations that we have proposed; or else in an insulated form, just as they may occur to us. Following the last named method,—or what must, perhaps, rather be regarded as a deviation from method, —we shall on the present occasion, direct attention to the medicinal applications of *galvanism*, as adverted to by the Greek and Roman writers on medicine.

"Galvanism applied to medicine by the Greeks and Romans! Why, the existence of any such principle was not known until the year 1790!" Very true. Yet that galvanism was, virtually, applied by the ancients to the treatment of disease, we now propose to demonstrate, citing, with that view, certain passages from Greek and Roman writers, and translating them for the benefit of all Fellows of the London College of Physcians and other unlearned persons who need English versions thereof.

There is a certain living voltaic battery called a *torpedo*. The ancients were acquainted with that fish, and were in the habit of employing the shock which it communicates as a remedial agent. The following passage of Galen is in several respects remarkable:—

"Some persons think that certain bodies can affect others in their vicinity by contact only, in consequence of the mere force of their virtue, and that this is plainly shown in the case of the marine torpedo, the power of which is so great that when it is transmitted to the hand of the fisherman through his spear, it suddenly renders the whole hand torpid. From these conjectures it is easily understood that certain things of small bulk induce, by contact alone, the greatest alterations; as may be seen, also, in the Heraclean stone, which is called the magnet; for iron which it has touched adheres to it without any fastening; then if another piece of iron touch that which was first touched, it will adhere to it as the first did to the magnet; a third piece of iron will, in like manner, adhere to the second, so as to make it evident that most intense powers reside in certain substances."—(Galen, "De Locis Affectis," lib. vi., c. 5. Edit. Basil, Græce, 1538.)

We have here three things worthy of notice; first, a recognition of the power that has since been known as animal electricity; secondly, a knowledge of the fact that this power is capable of transmission through a conducting medium; and, thirdly, a conjecture of its affinity to the magnetic power. In another place the same author says,

"But some persons write that a whole torpedo (I speak of the marine animal) will cure headache when applied to the part, and will cause a prolapsed anus to return. But I, having tried it in both cases, found the assertion true in neither. Bethinking me, however, that the fish should be applied to the aching head alive, and that it might have an anodyne power, and allay pain like other things which obtund the sense, I found such to be the case."—("De Simpl. Madic. Facult.," lib. xi. Ed. cit., tom. ii. p. 150.)

Ætius writes to the same effect:—

"The torpedo, applied alive, cures chronic headache, and causes the prolapsed anus to return. When dead, it produces these effects either not at all, or only in a small degree." ("Lib. Medicinal," lib. ii.. c. 185, Ed. Ald.)

Scribonious Largus, a miserable Latin writer, of the age of Claudian, recommends the application of torpedos, both in headache and in gout:—

"A headache, however inveterate and intolerable, is immediately removed, and permanently cured, by placing a live black torpedo on the painful part till the pain cease and the part become benumbed. As soon as these effects have taken place, the remedy should be removed lest the sensibility of the part be destroyed. Several torpedos of this kind should be procured, because sometimes the cure scarcely responds to the action of two or three, that is, the torpor which is the sign of the cure."—("Compositiones Medicæ," c. i. Apud Medicæ Artis Principes, 1567.)

"In both species of gout (the hot and the cold, to wit) a live black torpedo should be placed under the feet, the patient standing, not on a dry shore, but one washed by the sea, till the whole foot and leg is benumbed, up to the knees. This both removes the pain at the time, and prevents its future return."—(Op. cit., c. 41.)

Marcellus Empiricus, who, unless there has been some confusion of manuscripts, is the most impudent of plagiarists, has copied whole passages from Scribonius, without acknowledgement; among others, the two just quoted, the former *verbatim*, the latter, nearly so.

So much for torpedos. It is not to this apparently whimsical remedy, that we now request attention, but to the facts that the activity of galvanism on the human system, and its applicability to medicine, were known to the experience of the ancients, although the principle of galvanism was unknown to their philosophy. Might not the intelligent perusal of the first passage that we have quoted from Galen, have led to the discovery of the galvanic power before the latter end of the eighteenth century?

Is not a germ of electro-magnetism also to be found in the same passage? It may, however, be asked on the other hand,—If galvanism had been discovered and applied to medicine sooner than it was, would the latter science have been any great gainer thereby? Do the trials that have hitherto been made of electricity, as a threapeutic agent, justify us in reposing much confidence in its powers? We answer that it has not yet received a fair trial, having, in a majority of instances, been unscientifically and inefficiently applied. Some of the results that have been obtained have, nevertheless, been sufficiently striking. It is probable, that a very moderate galvanic influence, sustained for a length of time, will be found of more extensive utility than the more intense but transitory application of the same agent in the way of shocks; but we cannot persuade ourselves that an agent which so powerfully affects the nervous system, as well as the coagulability and other properties of blood, would not, if we knew how to handle it properly, admit of very important applications to the treatment of disease.

These views of the Editor of the London Lancet, corresponds with those we long since formed, and which we have practised upon, through a long series of years, with great success, and as he has advanced so far upon this important and interesting subject, we may now venture to say a word to him on the subject of magnetic remedies in chronic diseases, by which a very moderate galvanic influence is " sustained for a length of time, and the nervous system, as well as the coagulability and other properties of the blood, are effected in the most sanative and beneficial manner. It will not do to say a word to him about magnetised gold pills, in the present state of his knowledge, for with them there would be associated in his mind the idea of " pill monger," and perhaps " animal magnetism" either of which would be fatal to his further progress in favor of " galvanic influence."

We may however say, that the magnetised steel rings, (which may be gilded by the electro-magnetic process,) when worn on the fingers, maintain a moderate magnetic influence in some persons, and a strong one in others, who are very susceptible. They, with the influence of the magnetised gold pills, removed a large tubercle of the size of a small hen's egg, from the side of a person's neck, the last summer in six weeks, which had maintained its position there during five years. They have alone removed tubercles from the necks of more than twenty children, during the last six months; in about the same time, which had remained there from three months to two years, and rendering them liable by a propagation of the disease, to attacks of white swellings of the limbs, and disease of the hip-joint, &c. Scrofulous ulcers heal faster under their influence, and they apparently affect very favorably persons affected with tubercular disease of the organs and limbs.

In what manner do they produce such effects, is a question which is frequently asked, but in the present state of our knowledge is very difficult to answer in a satisfactory manner. We may however, be assisted in forming an opinion on the subject, by the statement of certain facts connected with it, among which are the following:

The rings are magnetised with two poles, which are connected by a magnetic axis, and have a magnetic equator at right angles with the axis, both of which pass through the finger at right angles—they consequently pass through the blood vessels and nerves; and besides the magnetism in the surface of the ring, is connected with the numerous nerves in the surface of the skin. The nerves are good conductors of the magnetic forces, or as the editor of the Lancet will have it, the galvanic influenee, and connect the forces in the ring or rings of one hand, with those of the rings of the other. Now the poles, and the forces in the rings, are negative and positive, and negative and positive forces attract each other; and as the tubercles in the neck are necessarily formed and sustained under the influence of the repulsive force which expands, there is a well grounded suspicion that the forces in the rings, attract the repulsive forces in the tubercles, and thereby enable their attractive forces to contract, and reduce them to their natural glandular state.

May not the use of these magnetised rings banish hereditary tubercular disease or scrofula from the face of the earth? The number of cases of this disease is increasing rapidly in Europe and in this country. They have increased fifty per cent. in the last hundred years from the abuse of mercury alone, by physicians, and by the quacks, disguised in their panaceas and syrups of sarsaparilla, yet we should never despair in our efforts to effect an object so important, as that of reducing the very germs of hereditary disease in infancy and adult age.

The physicians of Europe are aroused from their slumber on this subject which is now discussed in some of the medical journals in a very elaborate manner.

Besides the passage of laws to prevent the increase of hereditary disease, Dr. Prater, of London, suggests the following,

Plans for Preventing the Transmission of Hereditary Diseases from Parent to Child.

1. Let those on whose side the taint exists, adopt for some years, (or at all events, for a year) previous to marriage a diet and plan of life, which has been found by general experience most conducive to the palliation of the disease under which they are laboring.

2. As a part of the same system, let them, if their circumstances permit, even remove to a climate where the affection which they wish to subdue is rare, or unknown; and if they cannot continue there during life, let them, at all events, remain there for a period of six or eight years.

3. After marriage, if the hereditary taint be on the male side, the mother may suckle her children herself, living, as we are now supposing, with them, in a climate very unfavorable to the growth of the disease; or, at all events, bring them up by a system of diet and regimen (aided by medicine if proper) calculated to subdue it.

4. If the disease be on the mother's side, she is, of course, for some years previous to marriage, to live in a manner, the best calculated to eradicate it; and if, indeed, this be impracticable, she ought particularly to do so during the whole time of pregnancy. In case of issue, the child as soon as possible is to be separated from her, as *far as nourishment, &c., is concerned*, and to be brought up either by the hand or a wet nurse (of which the former is preferable), that it may not derive a further disposition to disease from her milk; for this, although not possessing a direct power of communicating the disease, still, as a nutritive fluid, has, in all probability, that defect in composition or structure, (for milk is *globular* common to the solids, on which hereditary diseases seem mainly to depend.—Since, moreover, the other secretions of the mother may partake of the same diseased disposition as the milk, it should be a general rule that the child, although, of course, it may be allowed to remain in her house or apartment, should not be kept for any long period in very intimate contact with her.—*London Lancet.*

We can here hardly resist the temptation to show the great superiority of the influence of the magnetised rings, over the influences suggested by Dr. Prater, in preventing the transmission of hereditary disease, but must defer it until we have demonstrated, as we propose to do in the next number, the magnetic organization of the human system.

ARTICLE V.

LUNAR INFLUENCE.

Being a Fourth Contribution to Proleptics.[*]

By T. Laycock, M. D.

Physician to the Dispensary, York.

The opinions hitherto held by scientific men on the validity of the doctrine of lunar influence have been remarkably discordant. The skeptical have always been unphilosophical in their skepticism, and the believers up to the time of Mead were credulous in their belief; both agreed, however, in admitting or rejecting the doctrine without much examination. As it has had, and may have, an important bearing on proleptical science, I propose to review the subject in a spirit of impartiality.

The phases of the moon have measured time from a very early period. Mr. Cullimore traces evidence of a lunar division of time on the bricks of Nineveh and Babylon, and Sir G. Wilkinson is of opinion that the circumstance of the god Lunus being the dispenser of time, and represented as noting off years upon the palm-branch, leads to the idea that in former years the Egyptians calculated by lunar instead of solar years. The hieroglyphic of a month, which is a lunar crescent, shows also, that their months were originally lunar. The derivation of the word *month* in our language, and of *monat* and *Men* in the German and Greek, sufficiently proves that the moon was likewise the measurer of the months at a very early period in the history of European nations.

This connection of the moon with the measure of time seems to have brought that planet into relation with the religious rites of ancient nations, as the Egyptians and Jews[*]; and also to have given origin (in part) to the *mythological* idea so extensively prevalent of a lunar influence on marriage and child-bearing. Even the barbarous Greenlanders, as Egede informs us, believe in this superstitious notion. They imagine that the moon visits their wives now and then; that staring long at the full moon will make a maid pregnant, &c. Among the ancient nations the general idea was, that the lunar influence varied according to the age of the moon. Bombastes, the Egyptian Diana, was not equally favorable to puturient females and their offspring in her different phases. Among the Jews the full moon was believed to be lucky, and the two other disastrous. "The full moon," says the Rabbi Abravanel, "is propitious to newborn children, but if the child be born in the increase or wane, the horns of that planet cause death; or, if it survive, it is generally guilty of some enormous crime."* The Greeks and Romans entertained a similar idea respecting the lunar phases. The general opinion seems to have been that the moon was propitious in proportion as its luminous face was on the increase.† The ancient Greeks considered the day of the full moon to be the best day for marriage. Euripdes makes Agamemnon answer, when asked on what day he intends to be married,

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[*] See Lancet, Vol. I., 1842-3.

"When the blessed season of full moon is come.—
Iphig., act v., 717.

Hesiod asserted that the fourth day of the moon was propitious, but the eighteenth was bad, especially to the female. The Lacedæmonians thought it unlucky to march to war before the full of the moon, or to make commanders at any other time than the new moon.‡ But illustrations of this kind might be multiplied to a great extent. Those who are curious in the matter will do well to refer to Dr. Prichard's work already quoted, to "The Doctor," vol. iii., p. 186, to Dr. Milligan's "Curiosities of Medical Experience," vol. i., p. 113, and (if they can get it) to "Astrologia Restaurata, by William Ramsey, Gent., Student in Astrology, Physick," &c., folio, Lond., 1653. This Ramsey was probably the son of Davy Ramsay, celebrated by Scott, in the "Fortunes of Nigel," and who says of the nativity of the Duke of Buckingham,—

"Full moon and high sea,
Great man shalt thou be;
Red dawning, stormy sky,
Bloody death shalt thou die."—Chap. vi.

The influence of the moon was acknowledged in magic and alchemy, as well as in mythology and astrology. Trallian directs a magical ring for the colic to be prepared on the seventeenth or twenty-first day of the moon.§ In Ben Jonson's "Alchemist," a play which, from the known accuracy of its author, may be considered as representing the swindlers in that line who were his contemporaries, TRIBULATION says,—

"But how long time,
Sir, must the saints expect?
"SUBTLE.—Let me see,
How's the moon now? Eight, nine, ten days hence,
He will be silver potate; then three days
Before he citronise,—some fifteen days."
Act iii., scene 1.

Medical science could not escape being involved in these notions. Indeed, the idea of a physiological and pathological influence is directly connected with the mythological; but this idea was conjoined with the doctrine of septenaries, and necessarily so, because the observed vital period of seven days was conterminous with the lunar period of seven days, or one week. In the second century we find Galen discussing this connection between the moon's influence and critical days, *in extenso*, and with great ingenuity, and his doctrines revived, but not improved, by Actuarius in the twelfth. That these doctrines influenced medical language and practice to a great extent might be proved by various historical facts. For example, in Matth. xviii., verse 13, of a person described as falling oft into the fire and oft into the water, it is said that he (*seleniazetai*) is affected by the moon. Trallian, using the same word, terms *epileptics, seleniakoi.** Apuleius, a Latin author, also terms epileptics *lunatici*. In Mr. Wright's "Biographia Literaria" it is stated, that one day John of Beverley entered the nunnery of Wetadun (supposed to be Wetton, in Yorkshire), where the abbess called him to visit a sister in whom the operation of bleeding had been followed by dangerous symptoms. When he was informed that she had been bled on the fourth day of the moon, he blamed the abbess severely for her ignorance; "for," said he, "I remember that Archbishop Theodore, of blessed memory, said, that bleeding was very dangerous at the time when both the light of the moon and the flood of the ocean were on the increase." This notion influenced medical practice to the time of Van Swieten.

Mead was the first of modern writers who considered the doctrine of lunar influence in a truly philosophical spirit. His work on the subject is still worthy of perusal.† He anticipated the doctrine of atmospheric tides. He declared that the moon's influence would be found to be greatest at apogee and perigee.—He showed, from various calculations, that the atmospheric pressure on the body might vary in consequence of the moon's influence on the atmosphere, to the extent of three thousand and sixty-two pounds, forcibly adding, "Fieri tamen nequit quin magnum sæpe momentum habeat tam insignis variatio."—P. 28. In short, Mead brought the subject before the profession as completely as the state of science at the time would permit. The last century has been more prolific in correct and extended observations on the subject than the preceeding ten. These I shall attempt to collate and arrange.

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* Basnages, Histoire des Juifs, IV. chap. xi.

† Prichard, Analysis of the Egyptian Mythology, 8vo., Lond., 1819, p. 72.

‡ Archæol. Atticæ, by Z. Bogan, 5th ed., 4to., Oxford 1658, p. 327.

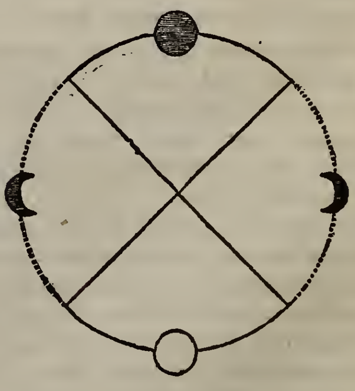
§ Lib. x,, cap. i.

* Lib. i. cap. xv.

† De Imperio Solis ac Lunæ in Corpora Humana, et Morbis inde Oriundis." Ed. Altera, 8vo., Lond., 1746.

Influence of the Moon on Fevers and on the Spread and Duration of Epidemics.

Testa quotes Gillespie, or Symmons, as having communicated to the "London Medical Journal," for 1785, cases in which ulcers showed an evident connection with the moon's changes, and also refers to remarks to the effect that the knowledge of lunar influence may be used proleptically in the treatment of intermittents. Balfour republished his tract, at about the same time, at Edinburgh, by the special recommendation of Cullen. It is worthy of remark that Balfour also refers to the proleptical use of the knowledge of lunar influence. His views are as follows:—1. That in Bengal, fevers of every denomination are, in a remarkable manner, connected with and affected by the revolutions of the moon. 3. That in Bengal, a constant and particular attention to the revolution of the moon is of the greatest importance in the cure and prevention of fevers. 3. That the influence of the moon in fevers prevails in a similar manner in every inhabited part of the globe. 4. That the whole doctrine of the crisis of fevers may be readily explained from the premises established respecting the influence of the moon in these disorders at the full and change.* The fever which came under Balfour's observation in Bengal was a bilious intermittent, appearing most commonly as a tertian or quotidian. The moon's influence was exhibited at full and change by the greater number of attacks and relapses which took place in the three days preceeding and the three days following each of these periods. The first and second propositions are alone substantiated by his observations. In considering his fourth proposition he was quite unconscious of the general law I have before demonstrated. Ambrose Pare observed that people were more liable to be attacked by the plague at the full moon. Diemerbroeck (as quoted by Mead) also relates that in the plague of 1636, two or three days before and after the new and full moon, the disease was more violent, and that more persons were seized at those times than at any other, and in a more fatal manner. Ramazzini asserts that the influence of the new and full moon, but particularly of the former, was matter of general observations during the prevalence of an epidemic fever at Modena. Balfour quoted Dr. Lind, as entertaining views similar to his own, and he has since been supported by several physicians and surgeons of the Indian armies. Dr. Scot asserted that the influence of the moon on the human body in India was well known to every medical practitioner. It was universally acknowledged by the doctors of all colors, of all castes, and of all countries. Dr. Farquhar corroborated these assertions. Mr. Pearson, an Indian surgeon, declares "that a careful observation of disease in that climate will corroborate the inferences of Dr. Balfour that the attacks and fatal terminations of febrile disease and of dysentery, retention in the intestinal canal, aggravations of spasmodic and nervous affections, take place most frequently during the lunar periods, *i. e.*, in fifty hours before and after the new and full moon."* Dr. Kennedy, in his work on the Epidemic Cholera, also declares, "The constitution here [India], both of native and denizen is assuredly under lunar influence, or, what is the same thing, under the influence of the changes of weather, which as invariably accompany the changes of the planet as the ocean." (chap. vi.) No recent writer has entered so fully into this part of the subject as Mr. Orton.† Individual cases which came under his own observations are related in support of the doctrine, and establish it apparently beyond controversy. One gentleman, for example, had a paroxysm of intermittent fever every lunar month, at the new moon, for two years and eight months. For two successive years he had one paroxysm only in the month, and that was *invariably* at the new moon (p. 204, also 394). Mr. Orton constructs the following diagram in support of Balfour's views:—



The black lines are the unhealthy periods; the dotted lines the more favourable periods. Each period extends for three days and three-quarters before and after the full and new moon, or the quarters. Mr. Orton then enters into a number of details as to the day of the moon on which the cholera appeared at various places in India, and presents the result of forty-six instances in the following table :—

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* A Treatise on the Influence of the Moon in Fevers. By Francis Balfour, M.D., 8vo. Edinburgh, 1785.

* On the Diseases of Warm Climates. London Medical and Physical Journal, vol. xi., p. 204.

† On the Epidemic Cholera of India, 2nd ed., 1831.

Days before and after full or change.

Appearances of the cholera.	1	2	3	4	5	6	7 and 7 1-2 (the quarter.)
	16	15	5	5	2	3	No instance.

The first column contains the instances in which the cholera appeared on the day of the *syzigee*, as well as that before or after. The attacks which commenced on the plenilunar, or light half, of the moon, were twenty-eight; on the novi-lunar, or dark half, eight. Mr. Orton consequently infers, "that the moon's syzigees have a very marked influence in producing the disease, and the quarters in removing it." The progress of the cholera in York, Glasgow, and Manchester, did not exactly corroborate Mr. Orton's views, as the following tables show :—

Progress of cholera in *York* from June 2d to August 13th, 1832,—

	New Cases per diem.	Deaths per diem.
At quadratures, including the day preceding and following.	5.40	1.93
On other days - -	5.63	1.72
On three days at new and full moon, - -	5.46	2.00
On three days at quarters,	5.33	1.96

In *Glasgow*, from Feb. 13th to May 24th, 1832,—

	New Cases per diem.	Deaths per diem.
On three days at quadratures. - - - -	9.52	5.69
On other days, - -	11.42	5.80
On three days at new and full moons, - - -	8.09	4.30
At quarters, - : -	11.90	6.76

In *Manchester*, from 1st to 23d August,—

On three days at quadratures 17.77 new cases per diem.
On other days 20.71 new cases per diem.

The difference in the results between these tables and Mr. Orton's may, indeed, be attributable to the difference of climate, for we have seen how more regularly the atmospheric tides recur within the tropics than the temperate zones. Besides, we can scarcely set off *negative* results against the numerous *positive* observations detailed by various individuals, and all leading to the same result. And, in fact, these observers are borne out by what is noticed in other tropical countries. "Him fever," says the Negro in the West Indies, "shall go when the water come low. Him always come hot when the tide high."[*] "Major Moore says that near the tropics, especially in situations where the tide of the sea has a great rise and fall, scarcely any person, and certainly no one affected with feverish or nervous symptoms, is exempted from extraordinary sensations at the period of the spring tides."[*] The arriero, or muleteer of Peru takes care not to unsaddle his mules in the *creciente* or increase of the moon, until they have cooled, otherwise they would be disabled by abscesses, which would rapidly form on the shoulders or loins.[†]

Lunar Influence in Affections of the Nervous System.

It is yet a popular opinion that epilepsy, insanity and asthma, recur at intervals regulated by the moon. Mead mentions a case of convulsions in a young female, the paroxysms of which corresponded in their cessation with the flow of the tide, and in their accession with the ebb. Brookes, a popular writer in his day, recommends the remedies for epilepsy to be given a day or two before the new and full moon, as the disease returns at the periods of the moon, especially the new and full. He mentions another convulsive disease in which the accessions of the fits keep exact pace with the phases of the moon.[‡] A very minutely detailed case of periodic asthma was communicated to the royal academy at Madrid, by Dr. Franzieri, physician to the court.[§] The history extends over a period of twenty one years; but it is enough to state here, that for four years the days of intermission counted from the very day of the new moon, to that preceding the eve of the full moon, and from the day of the full moon to the day before the eve of the new one. In a case of hysteralgia, detailed by Dr. Rutter, he says, "the pain was also greatly increased at the new and full moon. She first directed my attention to this circumstance, and I observed it for many years afterwards to recur with a degree of regularity which leaves no room to doubt the fact, to whatever cause it may be ascribed."[‖] Dr. Ebers, of Breslau, has lately published an interesting example of somnambulism in a boy, aged eleven years, and which he watched himself closely. The paroxysms came on regularly every full moon.[¶]

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[*] The Doctor, vol. iii. p. 179.

[*] The Doctor, vol. iii. p. 179.

[†] Peru as it is; by Dr. Smith.

[‡] Gen. Pract. of Physic, vol. i. p. 279, 6th ed.

[§] See Lond. Med. and Phy. Journal, vol. iii., p. 401.

[‖] Edin. Medical and Surgical Journal, vol. iv., p. 170.

[¶] Casper's Wochenschrift, numbers, 46, 47, (1838.)

Influence of the Moon on Insanity.

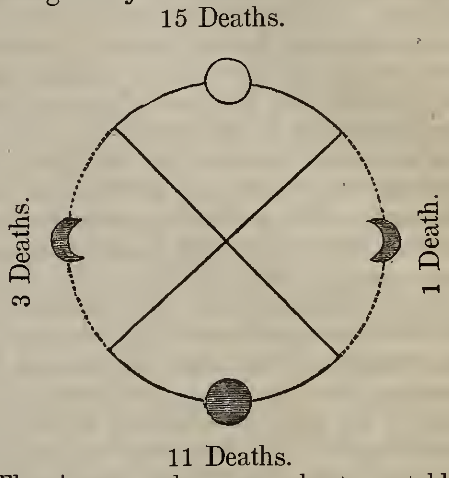
The evidence on this point is conflicting. Dr. Arnold says that he could never clearly and certainly perceive any such lunar influence.* In the annual report of the State Lunatic Asylum, Worcester, Massachusetts, a table of fifty cases of periodical excitement is given, and their relations to the moon.

There occurred on the average,—

At the new moon, - - - - - -	20
middle of ditto, - - - - -	13
At the first quarter, - - - - -	15
middle of ditto, - - - - -	11
At full moon, - - - - - - -	12
middle of ditto, - - - - -	11
At last quarter, - - - - -	13
middle of ditto, - - -	18

The periods however, in one half were not exoteric, but esoteric, in their origin; for in twenty-five the paroxysms occurred at very nearly regular intervals of four, six, eight, and twelve weeks. In one the intervals were tertian. These cases should have been separated from the others. M. Daguin, physician to the Lunatic Hospital at Chambery (Savoy,) made numerous observations and was decidedly of opinion that the moon exercises a constant and real influence on insane people. Dr. Michael Allen strenuously advocates the doctrine.† He divides the phases of the moon into four periods of increased and diminished excitement; the former commence two days before new and full moon, and continue for four days after; the latter commence three days before the quarters and continue for four days after. In fact, the division of the lunation corresponds almost exactly with Mr. Orton's; his unfavorable periods answering to Dr. Allen's periods of increased excitement, as the following diagram shows:

Diagram of Dr. Allen's Observations.



The latter author appeals to a table of deaths which occurred in his establishment, the result is as follows:—At full moon, 11 died; new moon, 15; first quarter, 1; last quarter, 3 died. But even this table is nullified by the experience of the Retreat.

Mr. Thurnam kindly furnished me with details.

Deaths at the Retreat for forty-four years, arranged on Dr. Allen's hypothesis:—At full moon, 33; new moon, 40; first quarter, 34; last quarter, 32.

The plus negatives the minus. I may add here that MM. Leuret and Metivie made observations on the frequency and irritability of the pulse of insane people at the moon's phases during August and September. The patients at the Salpetriere and Maison de Sante d'Ivry were examined:—*

	Last quarter.	New moon.	First quarter.	Full moon.
Frequency of the pulse at - -	85.67	81.62	80.55	79.80
Per cent. in whom it was quickened at - -	57.12	34.72	34.72	23.52

I have had asthmatic and epileptic patients who complained of lunar influence, but I could never satisfactorily ascertain that it was exerted. The paroxysms certainly occurred at intervals of a lunar month, and *about* the time of a lunation; but this might be simply a coincidence of the esoteric cycle with the lunar, and nothing more. A medical friend informs me of a case in which the patient is much more easily excited by alcoholic drinks at the full moon than at any other time. Chatterton, like Milton, imagined his intellect was more vigorous at the full moon.‡

Other Diseases and Functions under Lunar Influence.

The very ancient doctrine that the periodical change in the sex is under lunar influence has still its advocates. Dr. Flachs, a German critic, in a review of Dr. Davis' work on Midwifery, controverts an opinion of that writer to the contrary. He says that the fact is well ascertained, and that the full moon is most influential. Mead quotes cases to prove that leucorrhœal discharges are under lunar influence. "It is a fact worthy of remark," says Mr. Lambert,† "that the new and full moon are the periods at which the Kookies generally commence their operation of catching the wild gyalls, from having observed that at these changes the two sexes are most inclined to associate. The same observation has often been made to me by our elephant catchers." In the earlier volumes of the "Philosophical Transactions" are histories of *hæmorrhages* which broke out at lunar periods. Mead relates a curious instance of this kind. Dr. Pitcairne was seized at a country seat near Edinburgh, with a bleeding from the nose and faintness, at the exact hour of the new moon, namely, nine o'clock, a. m. On returning to Edinburgh, he was informed that Mr. Cockburn, professor of philosophy, had died, suddenly, at the same hour, from hæmorrhage from the lungs, and also that five or six of his patients had been seized with hæmorrhages. The barometer was lower at that hour than either he or his friend Dr. Gregory had ever observed it. *The births and deaths* of mankind generally have been supposed to be under lunar influence. It was formerly supposed in the Netherlands that fat people died at the flood, and thin spare people at the ebb. Among the wonders of the isle and city of Cadiz, one is, that the sick never die there while the tide is rising, but always during the ebb. Dr. Mosely made out a list of persons who had died aged from one hundred and thirteen to one hundred and sixty-nine years, to prove that very old people die at the new or full moon. He also infers from the times of death of forty illustrious persons, that the same rule holds good with mankind in general. Three or four years ago, Mr. Proctor (now resident medical officer at the York County Hospital) made me out a list of the births, with their dates, which had occurred in the practice of Mr. James Allen of this city, during the five years from 1831 to 1835, inclusive. On arranging these according to the changes of the moon, the result was as follows:—Number of births at new moon, 151; first quarter, 129; full moon, 131; last quarter, 154. The day before and the day after the day of change were included in the estimate. The whole number of births were 1403; of lunations, 247; of days included in the lunations, 741, or 247×3.

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* Observations on Lunacy, &c., vol. i., p. 324.

† Cases of Insanity, 8vo., 1831.

‡ Works edited by Southey, 1803, vol. i., p. 34.

* London Medical and Surgical Journal, vol. iv., p. 688.

† Account of the Bos Frontalis, or Gyall. Linn. Trans. vol. vii., p. 305.

It is remarkable that the ancient doctrine of lunar influence on vegetation is still practically applied in some tropical countries. "Herbs set in the wane of the moon," says William Ramsay, quoting this doctrine, "do not thrive well; vines, to check their growth, should be pruned in the wane; timber cut to keep well," &c. Dr. Robertson asserts that in the West Indies all sorts of vegetables are fuller of sap at the new and full moon; the colonists, therefore, abstain from cutting wood at these periods, but sugar-canes are cut and castor-oil nuts are gathered at these seasons, the latter being supposed to yield one fifth more oil at those times than at any other. This influence of the moon is still acknowledged, at least in Cuba, as Mr. Backhouse informs us, in the account of his travels lately published. The moon also guides the agricultural operations in Peru. "The maize crops," says Dr. Smith, in his work before quoted, "the farmers always harvest in the '*menguante*,' or decrease of the moon; for it is a fact, known to every husbandman, that if they collect the crop in the '*creciente*,' or increase of the moon, it will not keep free of moths for three months, even though allowed the advantage of being left in the husk." Around Lima the farmer takes care not to sow in the *creciente*, or the wood-cutter to cut timber, especially willow and elder, or it soon decays, as Dr. Smith found out by his own experience.

It has been supposed that the moon exercises an attractive power on the fluids of living structures, like that exhibited on the great masses of water on the globe. I think this hypothesis need not be discussed or noticed further. It has also been supposed that the *light* of the moon has a direct influence on vital function. The sun's rays may certainly be so altered by impinging on the moon, that when reflected from the latter they may have a chemical and physiological action very different from those proceeding directly from the former. Testa discusses the question at considerable length[*] Supposing it to be proved that the moon's light have an injurious influence I think it scarcely belongs to my subject. Shutters or an awning will at any time effectually neutralize it, so far as man is concerned. Be this as it may, there are no observations extant worthy notice.

In accordance with my previous plan I shall next proceed to compare physiological and pathological observations with meteorological phenomena and consider whether there be any changes in the density, electric tension, or hygrometric condition of the air at the lunar phases, whether there be changes in the direction of its currents, and whether these changes have any connection with the observed changes in vital function, and how it takes place. This will form the subject of another communication.

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[*] Bermerkungen über die periodischen Veränderungen und Erscheinungen im kranken und gesundem Zustande des menschlichen Körpers, Leipzig, 1790, p. 337, seq. This is a translation from the Latin of Testa. Testa's Book, I may observe, contains more rational facts and arguments on the subject of vital periodicity than any work of the time that I am acquainted with. He took it up where Mead left it.

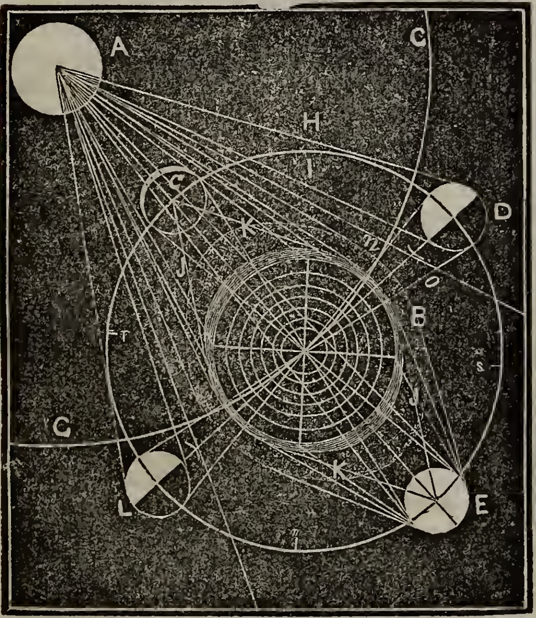
The Law of Seven.

To the Editor.—Sir: In your widely-read Journal the periodic law of seven, in health and disease has been illustrated, both physiologically and pathologically by Dr. Laycock; by Dr. Robert Williams, on Consumption; and by "Chirurgus" on Menstruation and Delivery (LANCET, 11th March, 1843,) and I some time ago, observed what may be considered to be another illustration of it, in a paper (by Dr. Stratton) in the "Edinburgh Medical and Surgical Journal" for, Jan., 1843, page 112, where the result of several series of observations is to the effect that in health the human pulse is more frequent in the morning than in the evening for six days out of seven, and that on the seventh day it is slower. Verily it seems as if the days of mathematical medicine were about to return. I am, sir, your constant reader and faithful servant, PITCAIRN SECUNDUS.

Kingston, Upper Canada, May 21, 1843,

Hemorrhage from the Lungs.

NEARLY all the cases of hemorrhage from the lungs occur within four days of the new moon or of the full moon, and the natural and regular periods of hemorrhage from the uterus occur within the same time. These facts were well known to the ancients, and a knowledge of them is a matter of great importance to both sexes who are predisposed to hermorrhage from the lungs, to enable them to avoid any exciting causes of hemorrhage at these periods, and particularly to females, for obvious reasons.



A solution of this lunar influence is found in the more rarified state of the atmosphere, from its expansion at K J and J K; at the new moon, c, and full moon, E, from the combined action of the sun and moon upon it, at these periods, in the direction seen in the figure, and in consequence of which the pressure of the atmosphere on every square inch of the body, and of the cavities exposed to its influence, is greatly reduced.

The diminution of pressure commences three days and a half before the new and full moon, and gradually increases until it arrives at its maximum, at the time of the new and full moon; when it begins to decrease, and goes on decreasing to the end of three days and a half, when it is minimum, or 0, and so continues through the intermediate periods.*

When the moon is in its syzygees, c E, its forces are extended to the atmosphere of the earth, B, by the action of the forces from the sun, A; but when the moon is in its quadratures, D L, the extension of its forces beyond the) parenthesis (is interrupted by the forces from the sun, and the density of the atmosphere is then at its maximum.

The periods of *excitement* and *repose* in chronic diseases are generally very regular, the first occurring in the periods of the new and full moon, and the latter in the intermediate periods.

When hermorrhage commences from the lungs, the arms above the elbows and the legs above the knees, should be bound with handkerchiefs, moderately tight, until the hemorrhage ceases, for the purpose of checking temporarily the accumulation of blood in the heart and lungs. The patient should at the same time drink freely of alum water, or salt water. The violence of the hemorrhage soon ceases under this treatment; the use of these drinks should, however, be continued until the bloody expectoration has ceased, when these safe and efficient remedies will finish their work by exciting the action of the intestines. Drawing blood from the arm in large quantities under such circumstances, as is commonly practised, is not only positively injurious in a great majority of cases, but it is often fatal; and such patients are never in greater danger than when they are in the hands of a physician whose knowledge is bounded by inflammations. When the quantity of blood raised, exceeds a wine glass, a blister should be applied between the shoulders, and rest and quietness, with a light diet, strictly observed, until the system has recovered from the exhaustion produced by the hemorrhage.

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* Consumptive persons of the vallies are frequently attacked with hemorrhage from the lungs in passing over the mountains in the intermediate periods.

The acetate of lead (sugar of lead,) if at hand, may be also used in these cases, 3 or 4 grains, or a quantity that will lay on a sixpenny piece, made into 3 or 4 pills, with moist bread, may be taken at once, or at invals that may be determined by the urgency of the symptoms.

The few cases of hemorrhage from the lungs, which occur when the moon is in its quadratures, or when it is moving from the octant; r, to that at m, and from the octant at s, to that at I, are those that occur in chronic bronchitis, or chronic disease of the mucous membrane that lines the inside of the bronchial or air tubes, which rarely amounts to more than a wine glass, and is in general a matter of little consequence, requiring only the exercise of common prudence at those periods to prevent its recurrence.

Hemorrhage from the serous substance of the lungs, or from its serous membranes, occur in the rarified state of the atmosphere, at the periods when the moon is in syzygees or apogee and perigree; while hemorrhage from the mucous substance, or the mucous membranes of the lungs, occur in the dense state of the atmosphere, at the periods when the moon is in its quadratures, as we have ascertained in the most satisfactory manner, by a long series of observations.

* * *

Diagnosis by the Pulse. Hemorrhage from the Lungs.

TO THE EDITOR OF THE LANCET.

Sir—The number of the pulse in one minute is generally a multiple of twelve; I believe that this fact has not hitherto been noticed; yet will it be found not less useful and important than curious. In extensive practice, when advice gratis necessitates rapid conclusions, it is easy to determine, in a few seconds, to which number the pulse may be referred, and in many cases the nature and intensity of a disease may be suspected from the number of the pulse alone. In accordance with this law of numbers we meet with pulses of 60, 72, 84, 96, 108, 120, 144, 168. I have recently prescribed for a lady who has twice suffered from excessive nervous irritability; her pulse I clearly ascertained to be 240, twenty times twelve, nor was there any difficulty, as some have asserted there must be, in accurately counting it.

A pulse of 144 and 168 is often met with in pneumonia in children; it is remarkable that a pulse characteristic of a special disease will be the same in number in individuals of widely different ages. The pulse in rising and falling from accidental and temporary excitement, rises and falls through a series of duodecimal degrees; when within the first few minutes of an interview the pulse of a patient rapidly subsides from 120 to 108, 96, 84, a knowledge is at once afforded of the highly excitable and therefore susceptible constitution of the patient: beware of treating such subjects during periods of excitement, as for acute or serious disease, by violent measures; many such individuals are destroyed by continual cupping and bleeding, and mercurialising, for alleged determination of blood to the head; inflammation of the spinal marrow; inflammation of the lungs; pleurisy; disease of the heart, &c., when a recovery is often easily effected by merely allaying nervous irritability.

The pulse in many chronic diseases, as in consumption, is generally 108, and, under moderate excitement, 120, but not unfrequently only 96; a pulse not slower than 96 in an adult should always excite suspicion.—It sometimes happens that in bulky, leucophlegmatic, or hydroæmic, phthisical subjects, having, too, a finely-developed chset, that the pulse does not rise above 72 or 84; the practitioner, misled by first appearances, is apt to cheer the patient with an assurance of certain recovery, but from the continuance of the cough, after one or two visits, is induced, almost carelessly, to auscultate the chest, and is dismayed at discovering a considerable excavation in the lungs. In such subjects, not very frequently met with, recoveries do sometimes indubitably occur; the treatment consisting of an almost entire restriction to the most stimulating animal diet; of salt largely administered at every meal; of quinine and preparations of iron; and of lotions of spirit of wine and tincture of iodine applied to the surface of the chest. To such subjects sea-air is especially beneficial. I have known the audible evidences of consumption to disappear and reappear in individuals visiting the East Indies, the disease at last proving fatal, as in one instance very lately, apparently in consequence of the individual having prolonged his stay in England longer than usual: in such subjects I have known a well-marked excavation continue for many years, apparently stationary. The rapid progress of consumption in more irritable subjects, in whom the pulse is 100 or 120, is in many instances, I have reason to believe, as much attributable to the highly absurd and reprehensible practice of bleeding to arrest hæmoptysis, as to the unresisted progress of tubercular disease; chronic disease invades the system when the vital powers are depressed, and always acquires growth and rapidity from exhaustion of the vital and opposing force: bleeding for hæmoptysis in subjects suffering from tuberculous cachexia, may be denominated fashionable homicide. I am at present acquainted with many delicate individuals who have been expectorating blood, at intervals, for several years; I am convinced that every one of them would be destroyed by even a moderately large bleeding; why should such panic be excited by ordinary hæmoptysis as to confound all common sense and sober judgment? The hæmoptysis may doubtless be arrested by bleeding, but though the triumph of arresting it be great, the patient is merely placed upon his legs to stagger to the grave. In nineteen cases out of twenty the hemorrhage will cease by judicious treatment, without the adoption of the desperate expedient of bleeding, which, though it continue for days or weeks, a natural hemorrhage is far more easily borne than detraction of blood by the lancet; calmly and judiciously advise and administer, and seldom will danger or difficulty result from the mere hæmoptysis, though the patient may ultimately die from the natural progress of the disease. With every sentiment of respect, I am, sir, &c. ANTHROPOS.

April 5, 1843—LANCET.

SPINAL MENINGITIS.

A new name for tubercular disease of the organs and muscles. The old names, such as spinal disease, spinal irritation, spinal neuralgia, and nervous affection of the spine. are becoming rather stale and unpopular, and hence the policy of giving a new name to these maladies of the imagination, which were never favored with a real existence.

Treatment of Spinal Meningitis.

TO THE EDITOR OF THE LANCET.

Sir: In looking over the Lancet for May 27th last, my attention has been arrested by the case of spinal meningitis related by Mr. Tyte (p. 267.) The length of time required to accomplish the cure, by the treatment employed, notwithstanding its severity, will furnish a speedy excuse for the suggestion of a more speedy, certain, and, at the same time, less painful method. Had Mr. Tyte applied eight or twelve leeches over the tender part of the back, repeated them on the next day, if much tenderness on pressure remained, and afterwards used friction with croton oil until a copious crop of pustules was produced, instead of six weeks elapsing before the patient became *decidedly better*, the same happy result would probably have occurred within as many days. The functional derangement of the liver, stomach, or kidneys, which is generally present, would, of course, require to be treated at the same time (by means of decoction of aloes, carbonate of potass, &c., as the particular case might require).

I have treated about a dozen cases of this disease during the present year, and in only one have required to use calomel and opium. The patient was a man of very weak constitution; for a week the disease was supposed to be enteritis, all the symptoms of which were present. He was bled, and calomel and opium were administered, but the disease not yielding, I had a consultation with another practitioner, when great tenderness was discovered over one of the lumbar vertebræ.—The patient was cupped over this part, counter-irritation was afterwards applied, the mercurial action maintained for a few days longer, and he was discharged, cured, in five weeks from the commencement of the attack. I usually find about ten days sufficient to accomplish the cure, but occasionally more is required, and sometimes recovery proceeds more rapidly.

I believe that a great proportion of these cases is not recognised by the medical attendants; and also that many cases exist, supposed to be obstinate dyspepsia, which are owing to that subacute form of the disease which is termed spinal irritation. A case of this sort occurred to me lately. The patient presented the usual symptoms of functional derangement of the liver and stomach, and during the last five months, *these symptoms* had been treated by four medical men. On placing himself under my care it was only by *very careful* examination that I discovered tenderness over one part of the lumbar spine. I cupped him, used croton-oil friction, ordered a powder composed of calomel, one grain, aloes, one grain, and calumba, eight grains, to be taken every night and morning, and within three weeks the patient was cured.

I am, sir, yours truly,

June 26, 1843. C.

☞ The writer has authenticated his statements privately, by forwarding his real name and address to the editor.

These cases including that of Mr. Tyte referred to, were all cases of tubercular disease of the organs, and not that of meningitis, nor of functional disease of the organs; for there is never magnetic symptoms of tubercular disease, as in these cases, in mere functional derangement of the stomach, liver, or any other organ, and Dr. Tyte had the candor to acknowledge that the symptoms of meningitis in his case was not well marked, although it was much more so than any of those described by Dr. C. But the sequel of these cases like thousands of the same kind, is not yet told, and I hope the gentlemen will pardon me for saying that neither of their cases are cured—that they have only passed through a temporary period of excitement, to a temporary period of repose. We have seen a great many thousand such cures of the same disease, and in the same or a very similar manner, during the last ten years; but these cures were very temporary; for these patients would not "stay cured," and in fact, nothing was effected by the common remedies in any of these cases, but a temporary palliation of the urgent symptoms, while the patients were passing through the periods of excitement to that of repose.

Tubercular Consumption.

Dr. Hastings, of London, has recently commenced treating this disease with naptha, and apparently with success, so far; and other physicians in that metropolis are now engaged in testing its effects in this disease.

There are a number of different articles in commerce, which are sold under the name of naptha. The naptha used by Dr. Hastings is obtained by the destructive distillation of an ascetate, as the ascetate of lead, or of lime. This product has been called by chemists, pyroacetic spirit, mesilic alcohol, or ascetone, and is missible in all proportions with water, without producing milkiness. The dose is from 10 to 20 drops, three times a day. We are now testing its effects in a great variety of cases in this city, both alone and in conjunction with the compound chloride of gold, an article which we have been long in the habit of using with uniform success, in the first stage of tubercular disease of the lungs.

Dr. Hasse, of Koningsberg, cauterises the parts affected in laryngeal phthisis with a strong solution of nitrate of silver, consisting of one part of the nitrate to four, and afterwards two parts of water.—LONDON LANCET.

Vomiting, a Cure for Phthisis.

It is stated that 176 patients under consumption, 47 in the incipient, and 129 in the advanced stage, admitted during a period of four years into the military hospital at Capua were ultimately discharged, perfectly cured, their treatment having consisted in the administration of a tablespoonful night and morning of the following mixture:—Tartarised antimony, three grains; syrup of cloves, an ounce; decoction of marsh mallows, six ounces; mix. The dose was to be repeated until vomiting ensued.—ANNALI UNIV. DI MEDICINE.

Statistics of Cancer.

The following are results of researches on the prevalence of this disease throughout France, which have been made with much care and accuracy on the part of M. Le Roy d'Etoilles:

Of 3781 cases occurring in the practice of 174 surgeons, 1227 happened in individuals above forty, and 1061 to others above sixty years of age. The cases of cancer of the uterus were about thirty per cent.; of the breast twenty-four per cent. Cancer of the mouth was in women only as one to one-and-a-half per cent., while in men (probably from the use of the tobacco-pipe) it was as much as twenty-six per cent. Cancers supposed to have been of hereditary transmission figured only as 1 in 278 [?]: while those induced by scrofula were as 1 in 10; and by syphilis as 1 in 5.

The most useful part of the inquiry is that that which is brought to bear upon the utility or otherwise of operating on cancers. Out of 1172 patients not operated on, 18 lived for more than thirty years after the first appearance of the disease; while out of 801 operated on by excision or caustic, the existence of only 4 was prolonged for a similar lapse of time; 14 patients operated on, and 34 not operated on, lived for a period of from twenty to thirty years; and 88 in the first category, and 228 in the second, lived from six to twenty years after the first appearance of the disease. The ordinary duration of life after this period among persons not operated on, is said to be five years for men and five and a half for women; while among those operated on, it is no more than five years and two months for men, and six years for women.

From these results the natural conclusion is that the ablation of cancer (leaving out of account the risks attending the operation itself) does little, even when successful, to prolong life and is therefore (in France, at least) of very questionable utility. Results like these, startling as they may seem, and however they may demand subsequent corroborations, are, at least indications of the light which statistical science is enabled to throw upon the actual and relative value of many of the aids in medicine and surgery of which we at present avail ourselves.—*London Lancet.*

Case of Enlargement, Scrofulous Abscess, and removal of the Testis.

BY GEO. LANGSTAFF, ESQ., SURGEON, LONDON LANCET.

This was a common case of tubercular disease of the testis on the right side, in which an ulcer was formed, and discharged its matter through an opening upon the surface, during the use of the common remedies, including iodine, when it was removed in the usual manner. I have noticed this case for the purpose of saying that I have cured cases of this disease of the testis with the magnetic remedies for it, where they were enormously enlarged and discharging scrofulous matter from one to seven abscesses.

Suppression of Pus.

The discharge from a child's ear, or a gleet in a man, is suddenly suppressed. Pain and danger ensue, and are ascribed to the suppression; but they ought to be attributed to the *increase of inflammation* to an extent which is inconsistent with the secretion of purulent matter. Leeching and fomentation are obvious. In wounds and ulcers the secretion must be re-established by wine, bark, and stimulating fomentation.—Sir Charles Bell.

Derangement of the Brain by a sudden Shock, and its Recovery by similar means.

(*Similia Similibus*)

By S. Patterson Evans, M. D., Edin., Newmarket-on-Fergus.

A laboring man brought to me his son, nineteen years old, for my advice. Having attended him for a cut leg two months previously, I was much struck now with his altered appearance. When coming to me before, I thought him remarkably acute and intelligent; he now had become *idiotic* in countenance and manner. He did not know my name, his own or his father's; continually talked to himself indistinctly; sang; made grimaces; laughed with a foolish look; would leap about, and otherwise behave ridiculously. His answers were peculiarly short and snappish, nor could he keep steady a moment, but was altogether restless and irritable. At home he attempted to injure his sisters with a knife. Appetite good; sleeps pretty well, but often starts with a scream in his sleep, as if frightened. When asked a question he did not appear to comprehend its meaning until repeated. When questioned as to pain, he put his hand to his head, but did not reply; and from frequently applying his hand all over that region, it appeared to be the seat of some general pain or uneasiness. The head, generally, felt hot, and especially the forehead; the temporal and carotid arteries pulsated rather strongly; the pupils were contracted, and the sclerotic vessels more minutely injected than I had ever seen those vessels before; no vomiting. nor any lesion of the muscular system. Upon my asking his father whether he could account for this alarming state, he gave me the following singular history:—

Up to the 22nd of Nov., 1842, he was perfectly well and able to work. On that day he happened to kill a hen belonging to a woman, who complained of him to his mother, who told his father of what he had done. The boy, knowing that his father would punish him, did not come in to go to bed until he supposed his father was asleep. However, the old man, who was very apt to be guided by King Solomon, and not "spare the rod and spoil the child," stole to the bed when the boy lay asleep, and, catching him by the hair, gave him a few smart strokes of a small sally rod. He then left him, going out to his work. That day his mother remarked that the boy looked rather silly, and talked incoherently, and then daily got worse.

I therefore ordered the head to be shaved, cold applied, leeches to the occiput and neck, colycynth and calomel. He was ordered to be kept quiet, in a dark room. and on low diet. Owing, however, to his father's being constantly out at work, and he being the only person who could manage him, my directions were not followed up, with the exception of giving him the purgative, and throwing cold water over his head every morning. After some days I saw him again, but he appeared no better. The bowels were particularly obstinate. (Prescribed accordingly.)

Five or six days after this I saw him again, and was surprised with the change in his manner, as well as his altered appearance. He now knew me; answered questions rationally; talked quietly; had lost the restless manner; and, in fine, he was quite another boy. His pulse soft; tongue pale and moist; head cool; eyes natural, intelligent, and uninjected; but, upon inquiry, I found that though he had taken all my last medicines regularly, he was not indebted to them for his recovery, for up to the day previous he was as bad, if not worse, than before; but his father gave me the following singular account of his recovery, which I consider inexplicable upon any other principles than those advanced by Hahnemann in his axiom, *similia similibus curantur:*

The day before that upon which I saw him last, he was on the road-side amusing himself; a carman was going by; the boy flung a stone at the man, who caught the boy, and *gave him a good beating with his whip.* The boy ran home crying told his mother what had happened, and from that day, as if a devil had been cast out of him, became quiet and rational, and he is now perfectly well, though not as steady, sharp, or intelligent, altogether, as he was before the accident.

How much we have yet to learn, how little we really know, of the nature and rational treatment, not only of the diseases of the cerebro-spinal system, but of diseases in general. Assuredly, the uncertain and most unsatisfactory art that we call medical science is no science at all, but a jumble of inconsistent opinions; of conclusions hastily drawn; of facts badly arranged; of observations made with carelessness; of comparisons instituted which are not analogical; of hypotheses which are foolish; and of theories which, if not useless, are dangerous. This is the reason why we have our homœopathists, and our hydropathists; our mesmerists and our celestialists!

I will offer no comments upon the foregoing case. My experience in diseases of the mind has been too limited, and my observations would perhaps only destroy the impression which the case is calculated to make. At the same time, I cannot conclude without directing the attention of parents, and those who have the charge of children, to the lamentable results which may follow the infliction of corporeal punishment upon young children, of tender age and delicate constitutions. It enfeebles their minds; it undermines their attention and memory; it breaks down the finest of their moral feelings. But especially is it followed by terrible results when unexpected or sudden. Indeed, at any time taking the nervous system by surprise, with violence, may be followed by consequences equally awful.—*Abridged from Dub. Jour.*, Jan. 4th.

This was a case of derangement of the magnetic organization of the brain, called functional derangement of the brain, we long since traced the magnetic organization of the brain by the direction of its fibres, and this organization is constantly confirmed by clairvoyants.

Making believe to Administer Arnica.*

TO THE EDITOR OF THE LANCET.

Sir:—It is just two years since I drew the attention of the medical profession, through the medium of your journal, to the invaluable benefits to be derived from the use of arnica montana in bruises, incisions, sprains, and other affections more particularly regarded as belonging to surgery. Since that time the numerous additional cases illustrative of the value of arnica, have increased so fast, that I have given up recording them particularly. My attention has, however, been arrested to a case so strikingly illustrative of these benefits, that I have thought it to be my duty to forward it to your Journal.

To the Royal Jennerian London Vaccine Institution, last Thursday, a mother brought her child to receive the certificate of protection. After receiving it she exclamed, "You sir, saved this child's life," and a fine little fellow he was. I had quite forgotton the circumstance. I asked the name, and on reaching home, examined my book of cases, and found the following:—Alfred Wyatt, June 20. aged three months and a fortnight; child apparently dying. A little girl that nursed the child had let him fall, and he, in falling, fell upon *his head.* The mother had obtained somewhere a powder, but the child became worse. He had been in a severe fever ever since the accident. His eyes were half closed, and the peculiar cast of countenance indicative of affection of head was present; in fact, I feared the child would die before he reached home. I told the mother to let me know the state of the child on the following day, my belief being that I should hear of his death. I ordered three globules* of aconite in two ounces of water, a fourth part immediately, and four hours after the first dose of aconite a dose of arnica, three globules, in two ounces of water, a fourth part as a dose, and to repeat the aconite and the arnica alternately, every four hours.

21 [i. e. the next day.] The mother came to me, and said, weeping with joy, "He is laughing to-day." Her gratitude was great; she said she thought that before she should reach home yesterday, he should have died. I ordered another aconite mixture and another arnica mixture, a dose of each once a day, and the result was *then* health, and on Thursday last the agreeable notice, "You, sir, saved this child's life."

Arnica is now used most extensively by allopathic practitioners, so much so that the following notice has been deemed necessary;—"The great and increasing demand for tincture of *arnica* has led many drug merchants to vend a root which is not that of the arnica montana."—British Journal of Homoeopathy.

Yours Sincerely,

JOHN EPPS, M. D.

May 27, 1843.

We have frequently prescribed arnica and aconite, and find them very useful medicines. In regard to the minuteness of the homœopathic doses, as in this case, it is in general a matter of little consequence if they are well magnetised, according to the directions of Hahnemann and Jahr; when they will magnetise the water in which they are diluted, and impart to it the distinctive qualities of the medicine, with a power fully equal to the common doses prescribed by physicians of the old school, or allœopathists, for the amount of magnetism in the doses increases with each dilution an hundred fold, until the distinctive quality of the medicine is exhausted.

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* Our worthy correspondent has entitled his letter "Arnica and its Uses," but an examination of his prescription in the note, induces us to prefix a more correct heading.—Ed. L.

* The child did not use arnica externally, and the globules of aconite were impregnated with aconite tincture at the *octillionth* dilution, and the globules of arnica tincture at the *billionth* dilution.

Determination to the Skin.

A correspondent (*Anthropos*) writes as follows:—The iodine of potassium possesses the remarkable property of causing determination of diseased action to the skin. In cases of what may be termed "suppressed measles" and "scarlatina," it will frequently induce a healthful reaction under the most desperate circumstances. *One* or *two* grains, according to the age of the patient, under twelve years, may be dissolved in a quantity of *sugared water*, and administered, *repeatedly*, as an ordinary drink, the whole quantity being given in *twenty-four hours*, for three or four days. In measles, a small plaster to the chest assists the peculiar action of the iodine. In scarlatina, the compound tincture of iodine, diluted with three or four parts of water, may be frequently applied by means of a camel hair brush, to the front and sides of the throat and neck. Milk is injurious during the first two or three days, in cases either of measles or scarlatina. I have not had an opportunity of giving iodine to individuals suffering from small pox, but think it might prove serviceable especially after the appearance of the eruption, as anticipatory of secondary fever. Let those readers of The Lancet who doubt the sufficiency or efficacy of so small a quantity of the iodine test it by their practice. Those to whom experience has demonstrated the utter insufficiency of other measures in malignant cases cannot reasonably object.—Lancet.

Clinical Lectures on Cases of Diseases of the Nervous System, delivered at King's College Hospital.

BY R. B. TODD, M. D. F. R. S.

We have waded through these lectures and those of Dr. Marshall Hall on the same subject, with all the patience of Job, without being able to find any thing in them, of any value to the physician or his patients. When these distinguished physicians have practised the magnetic symptoms of tubercular disease among their patients through the different seasons of a year, and have compared them with the old astrological symptoms with which they are so familiar, they will begin to have some knowledge of the subject on which they have been delivering these lectures to the students of medicine.

Beobachtungen über den Nutzen und Gelrauch des Keilschen Magnet Electrischen Rotation-Apparatus in Krunkheiten, &c. Von J. E. Wetzler, &c. &c. &c.

Observations on the Utility and Mode of applying the Magnetic, Electric, and Rotatory Apparatus of Keil.

We may give one or two cases to illustrate the efficacy of this agent.

The first we select is detailed at pp. 14, 15, and is as follows:—

"The Rev. M——, a little above 40 years of age, of a robust frame, had suffered for six years from pain in his head and face. He was in other respects well. The pains began at the forehead, and extended over the temples to the cheeks and upper-jaw, where they were so violent as to compel the patient to lie down in bed, and keep perfectly still. At one time, they were worst on the right, at another, on the left side; but generally worst on the left. His exposure to wet, wind, and cold, in the discharge of his duties, generally brought on an attack. I magnetised him twice, and he left his place of sojourn (Kessingen) perfectly free from pain. I inquired at the expiry of a year, whether he had remained free from pain, and received for answer, that for three months he enjoyed perfect immunity; but that after that, the pain returned. Eight days, indeed, was altogether too short a time to effect a radical cure. In his case, the second branch of the fifth pair of nerves was chiefly affected. Over this nerve he could not bear the weakest power of the apparatus, but I was obliged to transmit the current through my finger; and when I placed the point of the finger on the spot, he felt as severe a pain as during an attack. Whenever I removed the finger, the pain instantly subsided. Here we have an example of the homœopathic *simile simili*."

At page 20 we find this curious case:—

"Madam E——, from Eisenach, suffered three years from gout, and then from typhus fever, which confined her to bed six months. Her recovery was slow. The previous summer she had employed the Ems baths. Her right arm was lame from rheumatism. She gradually recovered her strength, and the use of her arm likewise. The two last phalanges of the fore and middle fingers, however, still remained stiff, and bent inwards; and when she tried to move them in laying hold of any thing, the attempt made her whole hand shake. I was able to magnetise her only seven times. But even in this time there was considerable improvement—the trembling of the hand, was almost gone, and the finger more flexible. On the following summer she returned to Kessingen, and shewed me with joy her finger, now straight and flexible—telling me, that after her return home, her finger gradually recovered its flexibility, and the shaking of the hand entirely disappeared. So prolonged an effect I had, indeed, not expected!"

At page 34—

"Mr. R., a book-keeper, a middle-aged man, became affected, two years and a half ago, with trembling of the right hand, and cramp of the middle finger and thumb, so that he got ill on with his writing. The arm felt heavy as lead, was colder than the other, and the trembling and cramp were so severe that he could not write his name distinctly. The trembling was worse in the morning, and after any exertion. When he wrote, the middle finger, as well as the thumb, were affected with cramp. After the first operation, he wrote more easily; after the fourth, tolerably well, and improvement followed all the subsequent operations. For fourteen days he was magnetised daily, and then dismissed, as the sense of weight, and coldness of the arm, as well as the trembling and cramp were all gone, so that the patient could write as well as when in perfect health. After the fourth day the patient took some exercise, to see whether it would recall the pain, but it had no such effect."

Again, at page 44—

"Madame St. ——— (whose mother was deaf), thirty-four years of age, small in stature, and slight in frame, very sensitive to change of weather, for eight years married, but childless, began, fifteen years ago, to have difficulty in hearing. The consulted physician applied caustic behind the ears, and the ulcer thus produced continued to discharge for three months without any benefit. Two years afterwards she was affected with chlorosis. Venesection proved very injurious to her. For several years she suffered from dyspepsia to such an extent, that she could not bear the slightest aliment. She was cured of this by a homœopathic physician, so that she was enabled to eat even the heaviest food, such as roasted goose, without any inconvenience. Deafness and painful noise in the ears, always worst at the menstrual period, and after exposure to cold were her chief complaints. She also suffered from weakness of the eye, so that she could not read by candle-light. The deafness was not, indeed, very bad, but annoying, as it prevented her mixing in society, as she could not understand what was said. I began to magnetise her on the 18th of October, once every day. On the first day after the operation she heard somewhat better. By the 8th of November the ringing in the ears was gone; the menses occurred on the 10th of November, and with them aggravation, after that amelioration. Again, once or twice, after unusual exposure to cold, aggravation. In this state she remained, having lost all hope of further magnetising doing her good. The weakness of sight was so far improved, that she could again read by candle-light. A scaly eruption (psoriasis) on the neck, about the size of a shilling, disappeared, after she had been magnetised three times."

In all these forms of disease the magnetic electricity effected rapid improvement (with few exceptions, as in the case of deafness), and, in a comparatively short time, perfect cure. According to the experience of Dr. Wetzler no good is to be expected from it, if no trace of benefit be derived after the 3d or 4th application. Its operation being so speedy, and its application so free of danger, the surgeon should always try its effect in cases of squinting, stuttering, and contraction of the limbs before he proceeds to use the knife.—For, if unsuccessful, nothing but a little time, which in these cases is of no value, is lost; if successful, a painful, dangerous and uncertain operation may be avoided. "How then," our author asks, "does it operate? On what principle?" Observation shews that it is equally useful in preternatural excitability as in paralytic torpor of the motory nerves, in weakness and stiffness of the limbs, in swellings, ptyalism (of a particular kind,) and various other diseases. If the conductor be moved slowly along the skin of a person in health, a tingling (knistern) and slight pain are produced; if the conductor be allowed to remain for a little time upon one spot, when a high power of the apparatus is employed, the most violent pain is produced, as intolerable as the most agonizing neuralgia, and the muscles underneath are excited into convulsive movements or spasms. The moment the conductor is removed the pain and spasms cease. If a conductor be held in each hand, the most violent contractions of the joints of the hand are produced, and, on the removal of the apparatus, a sense of torpor, which is soon followed by unusual lightness. Even the momentary action of the magnetic electric apparatus upon the brow, leaves a sense of tension or uncomfortable sensation, that remains some time after its removal: and by its application to the tongue, an increased secretion of saliva is excited, which sometimes attends its application to the face. The allopathic school will here recognize a stilling and exciting energy, a calmatine, stimulant, and irritant, combined with the power of at once increasing deposition and absorption; the homœopathic school, on the other hand, will explain its curative influence, in the principle "*Simile simili.*" The homœopathic smallness of dose, however, does not hold here universally good. It is true that neuralgias require and bear only the feeblest power of the instrument; but in spasms and paralysis the highest power is required. Pain is felt only at the point of contact with the conductor; it does not spread either up or down the nerve; in this respect it is unlike the galvanic action on the motatory nerves. For, if placed over one of these, it produces movement of the muscular fibres along the whole course of the ramifications of the nerve. The effect of the negative pole is the same in kind in my opinion, as that of the positive—different in degree. I have healed affections of the nerves of motion and sensation, swellings, stiffness, &c., as well with the positive as the negative pole applied to the part. But the negative is much stronger, 30 or 40 per cent., perhaps, than the positive.

"The magnetised part becomes warmer and redder; and at the spot whereon the cylinder was held, turgescence and a red spot appear; the pain is burning like fire, and a blister would be produced, if the person had resolution to endure the action. On the other hand, redness, heat, swelling, as in neuralgia of the face, acute rheumatism, sprains, &c., are removed by it. (On this the homœopathists lay much stress.)

"I have never observed any effect on the pulse from the magnetic electricity, even in cases where I have exerted the highest power of the instrument for half an hour. Farther, in upwards of two hundred cases in which I have applied the apparatus, I have never in any (with the exception of two) observed a general effect to be produced upon the nervous centres—the brain and spinal cord. The exceptions were as follows:—A young woman—tight-laced—came to me to be magnetised on account of migrim. I employed the feeblest power of the instrument, and transmitted the current through my finger. In two minutes she fainted, but soon recovered, when some cold water was sprinkled on her face. The second was that of a gentleman of about fifty years of age, of a nervous-sanguineous temperament, who had suffered from hemorrhoids and rheumatism. Two days before he was to leave Kissengen, he was attacked with rheumatism in the neck. I first magnetised him very gently, and then as he said, he felt nothing. I increased the power. Suddenly he fell into a faint, and on coming to himself, told me, that he always fainted at the sight of blood. He was cured of the rheumatism, however. Magnetic electricity is only available against local diseases, as its operation is confined to the place of its application; and a main point to be attended to is, that the application should be made as near the affected part as possible. If, for example, the muscle of the arm is affected with rheumatism, it is not to be cured by exciting violent contraction of the whole limb by laying the conductor on the bend of the arm, but by passing the conductor gently over the affected muscle, and holding it fast there. Of course, in the cure of neuralgia, paralysis, &c., these must arise from no incurable disorganization, if any but transient benefit is to be derived from the application of the galvanism."

We are repeating these experiments with a rotary magnetic machine, in a variety of cases, and shall be able to give some of the results in the next number, when we propose to try the effect of this powerful machine upon the *seat* of knowledge of some of the professors of our medical colleges, as the forces emanating from magnetic machines remove opacity of the organs with great facility as will be seen in the following article on the

Effects of Galvanism in certain organic diseases of the Eye.

The following experiments were made by Dr. Lerche in St. Petersburgh, with the assistance of Dr. Crusell, the discoverer of this method of applying galvanism.

1st. A complete leucoma of the cornea, as being a disease which has hitherto baffled all attempts to cure, was chosen for the first subject of experiment. The patient, a boatman, 68 years old, had entered the Institution on account of an inflammation of the other eye. The apparatus used was a simple chain, consisting of a zinc and copper plate, immersed in diluted sulphuric acid. The wire in connection with the copper plate was brought in contact with the leucoma, while the wire from the zinc plate was placed upon the tongue of the patient, and the stream of galvanism was kept up for two minutes. As the patient did not suffer in the least from the operation, and no bad consequences ensued; on the contrary, the white opacity on the edge of the cornea appeared thinner and clearer, the operation was repeated after three days. A distinct change for the better was gradually visible in the consistence of the leucoma, and the patient affirmed upon his part, that his perception of light had increased.

Dr. Lerche now determined to apply galvanism to the cure of internal opacities of the eye, such as those of the crystalline lens; and the results which Dr. Crusell had obtained in his experiments on the eyes of animals, confirmed him in his resolution. The first experiment was made on a pig. A fine cataract needle, fastened to the zinc pole, was pushed through the cornea into the crystalline lens of the right eye, and the wire in connection with the copper plate was put upon the external ear. After the eye had been galvanised for four minutes, the pupil began to look opaque, and the operation was concluded. Similar experiments were made upon the left eye. After a few days, *a perfectly developed lenticular cataract* was observed on both eyes, and the animal had become blind. "According to the theory," observes the operator, "the opposite pole of the galvanic battery should dispel the artificially formed cataract."(!!) In the course of ten days the operation was performed. After the eye had been exposed to the operation of the galvanic stream for three minutes, the process of resolution appeared to commence with the evolution of gas vesicles upon the pupil, and the operation was straightway concluded. The pupil appeared rough, and less opaque. In the course of four days it had recovered almost entirely its former clearness; and the vision so far as could be learnt from the behavior of the animal, was restored. On the cornea alone, at the circumference of the puncture of the needle, a dim spot remained.

2d. A coppersmith, aged 40, was recently successfully operated on for cataract of the left eye. In compliance with his desire to do something for the right eye also, which was affected with a capsular cataract firmly adherent to the iris, depression and other means were tried, but without permanent benefit. The very large cataract lay immediately behind the somewhat irregular and perfectly immoveable pupil; the patient, however, had perception of light. Galvanism was applied. It was most astonishing to see how, after the very fine cataract needle in connection with the copper pole had been run into the centre of the lens, while the zinc pole was laid on the patient's tongue, almost before a minute had elapsed, the cataract appeared to expand, increased in volume, and pressed against the cornea; then suddenly burst into three parts, one of which entered inwards and above, the other towards the temple of that side, and the third projected downwards into the anterior chamber; and yet the triangular fissure appeared perfectly clear and black. From the novelty of the thing (it was the first attempt of this kind upon a living man,) it was deemed advisable to desist, and the patient immediately saw and recognised a finger held before him, while the left eye was covered, and likewise the faces of persons before him. He had experienced no pain during the operation, which did not last a full minute, nor did inflammation or any other bad consequences ensue.

3d. The third case was that of a peasant aged 40, of a feeble constitution. The patient suffered from considerable amaurotic amblyopia of the right eye, while the left was affected with capsular lenticular cataract, and synochia. The breaking down of the cataract was attempted, but was of no use. On the 17th November galvanism was applied (and this time by means of a Becher-apparatus.) After half a minute, the adherent part toward the internal canthus gave way, and an excavation formed around the puncture, while the cataract expanded and protruded. The patient complained of headache; and so the operation, which had lasted about two minutes, was concluded. Towards evening considerable inflammatory action occurred, attended with great intolerance of light, and constant severe pain, deep in the eye and head. For a considerable time great sensitiveness to light remained, yet the patient was able to recognise small objects when the eye was turned away from the light, the pupil remaining very much contracted. The operation was repeated on the 1st of December, but this time only with the weak apparatus of two plates, such as was used in the first trial, and the negative pole remained only one minute in contact with the eye. Even after this inflammatory reaction followed, but in less degree, and of shorter duration. The vision improved to a certain point, only there remained fragments of the cataract still in the pupil. After this had been expanded by belladonna, a few lymph filaments were discerned connecting the fragments of the cataract with the edge of the iris, which were easily and entirely removed by the needle. No unpleasant consequences followed the last operation, and the patient was dismissed on the 6th of April, with perfectly restored vision.

4th. The third was the case of a woman, aged 56 years, who had lost the sight of her left eye under severe headache. The capsular lens, which had the appearance of the mother of pearl, adhered in its whole circumference to the pupil, the eye was tremulous, and the conjunctiva injected. On the 15th of November 1840, a cataract needle connected with the negative pole-wire of a pair of plates, was passed through the cornea into the upper segment of the lens, the positive conductor being put into the patient's mouth, and the galvanic current continued for a minute and a half. The upper part of the cataract disengaged itself from the iris, and the pupil contracted. Upon the same day also slight inflammatory reaction occurred, requiring for some weeks severe antiphlogistic treatment. On the 18th of December, the patient became affected with erysipelatous catarrhal opthalmia of both eyes, and in consequence, the palpebral conjunctiva appeared hypertrophied, and covered with large granulations. This condition, combined with great intolerance of light, was extremely obstinate. In the meantime, however, the vision improved, and the absorption of the cataract continued. After the inflammation had partially subsided, belladonna was dropped into the eye; and then it could be observed that the lens was absorbed, but vision prevented by the remains of the opaque capsule, which were easily removed by means of a needle. The pupil appeared a beautiful black, and the vision was perfect.—(Lerche in Berlin Med. Vereinstg. 1841, No. 35; Beilage, s. 171, 172; also Hygæa, xv. Band. v. Heft.)

The Agent in Animal Magnetism.

A writer in the Rochester Daily Advertiser, who signs himself T. J. Smith, states that he has succeeded in producing the various effects of what is called Mesmerism, by means of common electrical machines, and infers from this fact that electricity is the magnetic agent. He says:

"In the commencement of my examination of animal magnetism the impression was forced upon my mind, that its agent was the same, or near akin to electricity.

"This led me to test, by actual experiment. their similarity. I have used a small, common electric machine, and with it, by repeated trials, succeeded in producing all the effects usually produced by the will and passes of an operator. I have put a subject in the magnetic state by the machine, and awakened the subject without its aid, by the usual passes.

"Again: I have put a subject into the magnetic state by the will and passes, and aroused the subject to all his powers with the machine only.

"These experiments repeated several times, go to prove that electricity is the agent that produces all the marvelous results of animal magnetism.

"The machine, in the first instance, put the subject into the magnetic state, and the passes restored again to the natural state. In the second instance, the will and passes produced the same unnatural state, and the machine restored the subject.

"I have succeeded in putting a person in communion with the subject, by connecting him with the machine during the operations, and the person thus in communion, had control alone over the subject; could excite the organs, paralyze the limbs, &c., and awaken the subject in the same manner as when put to sleep in the usual way.

"Others have repeated the experiments with like success; and all who have witnessed them, were satisfied that electricity is the agent in all the mysterious effects of Mesmerism."

Some persons who are very susceptible to magnetic influence, cannot wear magnetised steel rings on their fingers, in consequence of their constant liability to fall into the magnetic sleep. Some pass into that state in one minute, while others of this class, feel no other inconvenience but that of slight shocks, which soon cease. The rings are magnetised with two poles—having a magnetic axis which passes through the finger, and a magnetic equator at right angles to it.

Remarkable Case of Magnetism.

Communication to the Editor of the Phrenological Magazine.

BY THE REV. DR. BEECHER.

In October, 1842, on my way to the Synod of Genesee, I spent the night at the house of Mr. Hall, at Byron. In the evening I called on Rev. Mr. Childs. On entering the room, I found his son, an intelligent boy, aged ten years, then in a cataleptic fit, sitting in his father's arms, and his feet in warm water.

In a few moments he recovered. He frequently had from three to six fits a day. Had received the best medical attendance in the region. Was no better—daily worse. He lost entirely the power of speech for several days. Great fears were felt that he would never recover. There was a sore place on the back part of his head and on the spine, occasioned by a fall some months previous. When the fits passed off he became hungry, and not at all drowsy; and during the interval appeared preternaturally bright; and engaged in sports as usual.

After I had conversed a few moments, I said, 'I would have him magnetised;' to which his father replied, 'I don't believe in it at all,' and the mother added, 'if you'll put me to sleep I'll believe, and not without.' I replied, 'I would try it—it may do good, and can do no harm.' During this conversation I made a few passes in front of the child, chiefly with one hand, and without any particular concentration of the mind or will, and mostly with my face toward the mother. In less than a minute the father said, 'he is in another fit!' 'No he is'nt I declare; I believe he is asleep.' Much surprised, (for I had never magnetised one,) I said, 'It surely cannot be what I have done, but if so I can awaken him;' then with a few reversed passes he awoke. 'Well, this is strange,' said I, 'but I can put him to sleep again if it is *real.*' I then seriously repeated the passes with both hands for one or two minutes, and placed him in the perfect mesmeric sleep. I then fixed my eyes on a lady on the opposite side of the room, the boy not yet having spoken for three days, and said 'Henry, what do you see?' He gave a name unknown to me; I looked to his father, who replied, 'it is her *maiden name.*' I then took vinegar into my mouth, and said, 'what do you taste?' '*vinegar*' speaking with great tartness, and at the same time making many contortions of the face. The mother now whispered to one of the children, who left her seat, and I said, 'Henry, what is she going for?' 'Sugar, and I love it.' She went to the closet and brought the sugar. I put some in my mouth, which seemed to give him the same pleasure as if I had put it into his own. I then said, 'What kind of sugar is it?' 'Muscovado.' 'What is its color?' 'Well, sir, a kind of light brown.' A small glass jar with a large cork was now placed in my hand, when immediately I observed the olfactory nerves affected, and the muscles about the nose contracted at the same moment. I said to the girl, 'What is it?' To which the boy answered, 'Hartshorn.' 'How do you know.' 'I smell it.' I myself neither knew nor smelt it. I then took out the cork and applied it to my nose, when he instantly placed his fingers on the part of his nose next to the forehead, and said, 'I feel it here,' just where I myself experienced the burning sensation.

During all these experiments he sat on his father's knee, with his head down on his breast, and reclining against his father.

I now asked him 'what is the matter with you?' 'My brain is sore.' 'Where?' 'At the bottom of it.' 'Where it joins the spinal marrow?' 'Yes,' 'What occasioned it?' 'I fell from the great beam in the barn.' His mother here asked him, 'why did'nt you tell us before?' 'I feared you would not let me play there.' 'Can Dr. A. cure you?' 'No.' 'Why not?' 'He don't know any thing about it,' (very decidedly). 'Can Dr. C.?' 'No.' 'Why?' 'He don't understand it.' 'Will the medicine you now use do you good?' 'No.' 'Of what is it composed?' 'There is turpentine in it.' 'Does the Doctor give it to you for tape worm?' 'Yes.' 'Have you any?' 'No.' 'Would you like to walk?' 'Yes.' 'Well, walk.' He arose promptly, stepped between the chairs, and said, well, sir, where shall I go,?' 'From the wall to the door and back.' This he did, avoiding every obstruction, and, at my direction, returned and sat again with his father. I now, without notice to any one, placed my fingers on the organ of benevolence, thinking at the moment it performed the office of Veneration, and said, 'Would you like to pray?' With some lightness, he said, 'No.' Some questions were asked by his mother and myself, about the bible, &c., but no veneration appeared. I then recollected the true office of the organ, and said, 'Have you any thing in your pocket?' He took out a knife. 'Give it to me for my little boy,' which he did promptly. I removed my hand. 'Have you any thing else?' 'I have a pencil.' 'Will you give me that for my other boy?' 'It has no head.' 'Never mind, give it, won't you?' 'I should not like to.' 'Well, but you will.' 'I couldn't come it,' (with peculiar emphasis.) Azubah said, ask him where the head of the pencil is. 'Where is it, Henry?' 'Well, sir, in the parlor.' 'Where?' 'On the window.' Azubah: 'Why, I picked it up and put it there to-day.' (He certainly did not know this.) I then said, 'Henry, can you get it?' He arose and went into the parlor in the dark, and took the pencil case head from the window, to the great surprise of us all. Indeed, we were all so astonished that it seemed a dream, during these and subsequent proceedings. He spoke with a promptness, boldness, and propriety, in advance of his years, and beyond himself in his natural state; and so perfectly evident was it that he was in a somnambulic state, that no skeptic, I verily believe *could* have doubted.

At my request, he returned to his seat. I touched benevolence, and instantly he handed me the pencil case. 'For my boy?' 'Yes, sir.' I then silently, and without any 'willing,' and with a feeling of curiosity to see and test the matter, touched reverence. His countenance at once assumed a softened and solemn aspect. 'Henry, would you like to pray?' 'Yes, sir.' 'You may.' He commenced praying inaudibly. 'You may pray aloud.' He then prayed in a low audible voice. On touching tune, he sung a tune, though not in the habit of singing. On touching combativeness and destructiveness, he raised his clenched fist to strike me. He was ignorant of phrenology, and also of my intention to touch any particular organ; nor did I in any case will the activity of the organ. I now took out my watch, and holding the dial towards myself, and above the line of his vision, his eyes being closed and his head bowed forward, and my hand also between him and the watch. 'Henry, what time is it?' 'Eight o'clock, sir'—which was exactly the time by the watch, though by the clock in the room it was fifteen minutes faster. 'Henry, how long ought you to sleep?' 'Well, sir, I must sleep two hours and five minutes.' 'Will you then awake?' 'Yes, sir.' 'Very well.' This I did for the purpose of testing his knowledge of time, as stated by Townsend, an English clergyman, whose work on this subject I had read.

I then said, 'Will you go with me to Mr. Hall's?' 'Yes.' 'Well, now we are there; now we are in the parlor; who are here?' 'Mr. and Mrs. Hall, Mr. and Mrs. Bardwell.' 'Who else?' He did not give their names, but intimated that they were strangers. He described the room and the position of things, all of which I found correct on going to the house shortly after. These persons were not in the habit of being there in the evening, but company having come in, they were all together at that moment. As this was in his own town, I did not deem it proof, and so said, 'Will you go to Batavia?' 'Yes' 'Now we are there—now we are at my house—now we will go into my room—what do you see?' 'I see a large table covered with black cloth, and with books and papers scattered over it.' 'How large is it?' It is about five feet long.' 'How many book cases?' 'Three, sir.' 'What sort of a stove?' He could not describe this, for it was so queer a thing as not to be easily described. Nor did I press him, for all his answers had been correct, and I was sufficiently astonished, for he had never seen my study, and no other minister, I am sure, has such a table (5 feet by 3 1-2) or left it in such confusion as mine was at that moment.

I may here say, that during the whole period of his sleep, he could hear the questions of others put to him, and would answer them, if I were willing; but if I willed otherwise, or forbade him to speak, as I often did, he then would answer no one but myself, not even father or mother; nor could he hear their conversation with me, nor with each other.

I now left him for an hour, and went back to Mr. Hall's, giving him leave to converse only with his father. On my return I found him in the same state. He utterly refused to speak to any one but his father, and told him he should not have another fit till the following Sabbath, (this was Monday evening,) which proved true; but when that day came he had several.

At nine o'clock and three minutes, holding my watch as before, and standing eight or nine feet from him, I asked the time. He gave nine o'clock and five minutes. 'Look sharp,' said I. 'O! three minutes,' said he.

We were now curious to see if he would awake himself at the two hours and five minutes; and as the clock in the room reached that time he did not awake, I said, 'Henry, did you mean by my watch or by the clock?' 'By your watch, sir.' 'Very well.' At the exact moment, he opened his eyes and looked around, and that without any act or willing of mine; and what was very affecting and convincing, he could no longer speak at all, and was unconscious of all that he had said or done.

I have said that he had no return of fits till the next Sabbath. One day after that Sabbath, he came in to his mother much agitated, and apparently going into a fit, and making the passes, he solicited his mother to do it, who, merely to pacify him, passed her fingers over him, and soon he fell into a mesmeric sleep, and escaped the fit. After this he was so highly charged by his sister, that when she was in the next room in the closet, he would instantly taste any thing she tasted, eat what she eat, &c.

In ten days I returned and magnetised him again, and went through several of the above experiments. He always, while in the mesmeric state, declared that it benefitted him, relieved all pain, and would cure him.

After I left, at my suggestion, he was daily magnetised: his fits left him, his voice returned, the sore spots on his head and back were removed, and he recovered rapidly till the family could no longer mesmerise him. A man in the village was found who could, and daily did, till he appeared entirely well. On omitting it he had a fit or two, and it was resumed; and when I last saw the father, he informed me that they considered the child cured.

I may add, I have since cured toothache, greatly relieved tic doloreaux, and removed other pains and swellings, as well as headache. I am not, however, a full believer in all which is affirmed of clairvoyance—what I *see* and *know*, I believe. In respect to many well authenticated facts, I neither affirm nor deny. That there are many cases of gross deception and imposition I fully believe. On such a subject it can hardly be otherwise. This, however, is a reason why men of character and intelligence should investigate it, rather than otherwise. 'But it is deception.' 'Well, then, let us expose it by a fair trial.' 'But it is the work of the devil.' How do you know? What is the evidence? What harm has it done? 'Oh, bad men have used it for bad ends!' And what is there in the world that has not been so used? If it is the work of the devil, then we need not be ignorant of his devices, and should make the examination for ourself, for ignorant and bad men will not expose his devices. From experiment and observation, I have no doubt, that, as a remedial agent, mesmerism is yet to accomplish much good, and no harm can result from it, except like all other blessings, it be abused.

W. H. BEECHER.

Boston, June 28, 1843.

Observations on Spermatorrhœa,

Or the involuntary discharges of the Seminal Fluid.

BY W. H. RANKING, M. D. CANTAB.,

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That important and most afflicting class of affections of the sexual organs, which is characterised by the frequent involuntary discharge of the seminal fluid, although sufficiently familiar to the majority of practitioners engaged in the large towns of this and other countries, has not met with such public notice on their part as it would seem to demand. For this reason, and to the great detriment of society, the treatment of the effects of sexual abuse or excess, exclusive of syphiltic and blennorrhagic affections, is too generally confined to a section of that horde of unprincipled pretenders, which the government of this country, to its shame, by tolerating, continues to patronise, and from whose obscene advertisements it condescends to derive a portion of its revenues. It thus happens that a subject fraught with the deepest interest, both as regards the individual and society at large, is rarely, in all its extensive details, submitted to honest and scientific investigation. It is to be hoped, however, that as the eye, the ear, the teeth, have one by one been rescued from the unclean grasp of quackery, so in its turn, this most wretched of all the curses which man's imprudence entails upon him, may be thought worthy the attention of the educated practitioner.

If a person after the age of puberty, and more especially if he have indulged in regular sexual intercourse, be from any cause induced to lead a life of perfect continence, he will experience involuntary emissions during sleep in greater or less frequency. The secretion of semen being continuous, and not, as is by some believed, accidental, upon erotic excitement, nature adopts this mode of disembarrassing the system of a product which ought, in correspondence with her laws, to be expended in the wholesome sexual employment of the organs. Emissions, therefore, occurring under such circumstances in robust individuals, so far from being injurious, must be regarded as a salutary provision. But, although beneficial, or at least, harmless, at first, these nocturnal discharges may, if the continence be prolonged, be, by an acquired habitude of the parts concerned, repeated to an extent which becomes positively injurious, and, as in the case of other habitual discharges, then produce inconveniences proportionate to their frequency, and the original constitution of the individual.

But the cases in which spermatorrhœa is consequent upon unnatural continence, *per se* are comparatively rare. The involuntary emissions which occur in such abundance as to constitute a really morbid phenomenon, are usually to be traced to one or other of the causes hereafter to be mentioned.

Symptoms.

From the almost insurmountable objection to speak of their ailments which is generally observed in the unhappy subjects of this complaint, it is difficult to procure a complete account of its origin. The history of a case of seminal emissions, however, will usually be found to be somewhat as follows.—After a greater or less amount of abuse of the genital organs, either natural or unnatural, the individual makes the discovery that he has become infested with seminal emissions during sleep. The emissions are at first accompanied by erection, but soon occur with diminished rigidity of the penis. If he at this time indulge in sexual intercourse he experiences more than usual difficulty in consummating the act; he is frequently disappointed altogether, or, if not, the erection is incomplete, and ejaculation more than ordinarily precipitate, and in some cases painful. As the disease advances the nocturnal emissions increase in frequency and abundance, at length occurring without either erection or pleasurable sensation; in fact, the patient is often only made conscious of them by the sense of feebleness on waking, and by the marks upon his linen. In sexual intercourse ejaculation becomes more and more hurried, till at length mere contact with or even sight of the female will induce it, and complete impotence is thus established. The pernicious effects of these discharges upon the general economy is soon evinced. The mind becomes enfeebled and incapable of protracted attention, the memory fallacious and uncertain, and the patient feels that he is no longer fitted for his usual avocations. His disposition undergoes an equal change, he becomes morose and suspicious, fond of solitude, lachrymose upon trivial occasions, and exhibits those apparently causeless contrarieties of temper, which are commonly received as evidences of hypochondriasis or eccentricity. Cerebral and thoracic symptoms, as giddiness, noises in the ear, palpitation, and cough, present themselves in greater or less intensity. The body gradually emaciates, especially about the lower extremities. The aspect becomes dejected, the patient seldom raises his eyes to the person he addresses as if conscious that the expression of his countenance would reveal his wretched condition. Digestion is impaired and accompanied by pain and flatulence. The bowels are invariably costive; indeed, I know scarcely any disease short of mechanical obstruction, in which they so obstinately resist the powerful cathartics. That this state of bowels is intimately connected with the emissions is shown by the fact, that upon the suspension of these the bowels at once resume their normal action. A case has lately come under my care in which the bowels resisted two-minim doses of croton oil, but acted spontaneously and regularly after the cure of the emissions by cauterisation of the urethra.—The urine is passed frequently, three or four times perhaps during the night. The aspect of the genitals is generally though not always enfeebled.

I have seen the most complete impotence co-exist with sexual organs of large size and vigorous appearance, but usually the penis is flaccid and without elasticity, the scrotum pendulous, and the testicles soft and tender to the touch. After the lapse of a certain time if the disease makes progress, the nocturnal emissions cease, and the patient is buoyed up with the hope that his ailments are removed; but his increasing feebleness soon proves that his hopes are without foundation. If at this time, the patient's attention be directed to it, it will be found that an alteration has taken place in the character of the urine, it has become turbid and nauseous to the smell. The turbidity is not, as in chronic affections of the bladder, persistent throughout the entire act of micturition, but appears chiefly towards the end, the urine being clear at the commencement. In other cases the seminal fluid, is not emitted till the bladder is emptied, when a glutinous fluid is observed to accompany the last few drops of urine. The evacuation of the bowels is accompanied by the same discharge, so that, in fact, there is a daily draining away of seminal secretion.

The case is now complete, and in that condition which, until Lallemand directed our attention to it, was utterly misunderstood.—The medical attendant being misled by the fact of the absence of nocturnal pollution, was invariably in such instances occupied by the more prominent features of the case, which was considered as cerebral, cardiac, or gastric disease, accordingly as one or other organ happened to take the lead in the symptomatology. This is doubtless the description of an extreme case; the majority present themselves while the emissions are nocturnal,—before, in fact, the disease has assumed its worst aspect; but it is of importance to be aware that the seminal fluid may pass away with the urine, and that it is not to be concluded, in a suspicious case, that spermatorrhœa does not exist, because a nocturnal emission has not occurred for a long time. The tendency of every case of morbid nocturnal emissions, if unchecked, is to become diurnal. The nocturnal discharges cease for the plain reason that the semen is removed continuously in the evacuations of the bladder and rectum.

Causes.

It has been the custom with most writers, from the time of Hippocrates downwards, to attribute seminal pollutions in all cases to previous abuse of the sexual powers. More recent investigations have determined that, although such indulgence is the more common cause, there are other circumstances capable of inducing the disease, independently of any blame on the part of the patient.

It is well known that some individuals support with impunity a degree of sexual irregularity which inevitably plunges another into the miserable condition in question.—We must, therefore, admit in the case of spermatorrhœa, as in other diseases, the existence of predisposition.

The application of lunar caustic to the urethra in cases of spermatorrhœa was first the suggestion of Lallemand; for although Sir E. Home had previously cauterised the canal, it was with the object of overcoming a stricture, Lallemand prefers, in all cases, the application of the solid nitrate, but it may likewise be used with benefit in the form of solution. In the hands of the French surgeon the success of this mode of treating involuntary emissions has been most remarkable. Nearly one hundred cases are reported in which it was adopted by him, and in all, with very few exceptions, its effects have been rapid, and, where the patient has been commonly prudent subsequent to the treatment, permanent. The experience of British surgeons, though not so extensive, is as far as it goes, equally satisfactory. In an excellent critique upon Lallemand's works, in the "British and Foreign Medical Review," are collected the written testimony of several English practitioners. One gentleman writes as follows:—"I can recollect eleven cases in which I have found Lallemand's treatment successful, and one in which it did not completely succeed. In seven of the eleven cases a single application of the caustic was sufficient; in four it was necessary to apply it a second time. . . . The effects are immediate; a person in whom the discharge has continued for months will have none for some days after the use of the caustic." Another writes thus: "I have carefully noted twenty-seven cases treated by the nitrate of silver. . . . Of these, thirteen were completely cured, eight so much benefitted that the emissions only recurred occasionally, and produced but little effect upon the system; the remaining five were benefitted, but not to the same extent." A third surgeon states that with regard to Lallemand's method of cauterising the urethra, he has tried it in a dozen cases, and in the majority of them with decidedly good effects. Mr. Phillips, in the paper before alluded to, thus speaks of the caustic bougie:—"In nineteen cases I used the caustic. Of these cases ten were completely relieved by a single application; in three the amelioration was decided, though the complaint was not cured; in six there was no relief. In the nine cases in which the first application was insufficient, the remedy was again used,—in three cases with complete relief." So that "in thirteen cases out of nineteen it succeeded, in six it failed; but in no case was there any aggravation." It appears, then, from these remarks, that of fifty-eight cases, exclusive of those of Lallemand, in which caustic was applied, it failed only in six, was beneficial in fourteen, and completely successful in thirty-seven, or two-thirds of the whole, a result sufficient to establish its character as a remedy of the utmost value.

Physicians of much experience will recognise in this practice an old acquaintance, and will see the fallacy of the great majority of these pretended cures; for they are nearly all cases of tubercular disease of the prostrate gland, involving more or less the organs with which it is connected, and complicated with tubercular disease of the cerebellum, in which the checking of the seminal discharges forms but a small part of the cure. The story of the subsequent suffering and death of many of these patients from disease of these organs, and from tubercular disease propagated from these to other organs, is not yet, and for obvious reasons never will be told. We have seen and treated a great many such cases so well described by the author of the above article, many of which had been nearly quacked to death with Lallemand's and other common remedies. In all these cases the magnetic symptoms disclosed tubercular disease of the prostrate gland, and cerebellum, and in many others it had been propagated from these organs to the cerebrum, stomach, intestines, and liver, and in others at last to the lungs.

Besides the moral treatment in these cases of tuberculous habits, in which the natural inclinations are much stronger than they are in other persons, they should be put under the use of the remedies for tubercular disease, and should continue under the use of them until their healths are restored, and it is only in the few cases, in which the urgent symptoms described in the above article, do not readily or gradually yield to their influence, that Lallemand's, or any similar remedy should be used.

The Power of the Human Will.

The following extract on this subject, is from the *New Orleans Crescent.*

Extraordinary Power of the Human Will—A long time ago we recollect hearing of some experiments performed by two ancient graduates of Ecole Polytechnique. A drop of quicksilver hermetically sealed in a small nut-shell covered with wax, and attached to a thread, on being held over a parcel of dimes placed in a straight line will move from one end of the silver to another, and its motion can be stopped by a mere effort of the will! If this ball be held over a gold watch a rotary movement can be obtained, and the motion reversed by the action of the mind! We tried the experiment yesterday, and found it to be perfectly successful.

We have been much pleased with a repetition of this experiment. Another extraordinary example of the power of the human will is that exercised by the magnetiser.—From numerous experiments in mesmerism, about one-seventh of the adult population, and children generally under ten years, are supposed to be very susceptible to its influence, and these it is now ascertained can be easily put into the mesmeric or magnetic state, by the exercise of the will of the magnetiser, without the use of manupulations, under certain favorable circumstances, and these are principally strict attention to the magnetiser or some other object, when he exercises his will upon them. Persons too, who have been once magnetised, although not before very susceptible to its influence, can afterwards be put into the magnetic state by the mere exercise of the will of the magnetiser, and even at great distances from him.

There is besides a still more extraordinary phenomenon in regard to the power of the will, for we find we can bring the true images of different persons from any part of the world into the room before clairvoyants, in an instant of time, even persons we never saw or heard of before, whether dead or alive, when they will see and describe them, with apparently the same accuracy they would if these persons were really before them, in their natural waking state, and solves the mysteries displayed by a travelling magician at Cairo, as described in the following article, as well as those that are practised by the same gentry in this country.

" Lord Prudhoe and Major Felix being at Cairo last autumn, on their return from Abyssynia, where they picked up much of that information which has been worked up so well by Captain Bond Head in his life of Bruce, found the town in a state of extraordinary excitement, in consequence of the recent arrival in those parts of a celebrated magician, from the centre of Africa, somewhere in the vicinity of the Mountains of the Moon It was universally said, and generally believed, that this character possessed and exercised the power of showing to any visitor who chose to comply with his terms, any persons, dead or living, whom the same visitor pleased to name. The English travellers, after abundant inquiries, and some scruples, repaired to his residence, paid their fees, and were admitted to his *sanctum.* They found themselves in the presence of a very handsome young Moor, with a very long black beard, a crimson caftan, a snow white turban, eighteen inches high, blue trowsers and yellow slippers, sitting cross-legged on a Turkey carpet, three feet square, with a cherry stalk in his mouth, a cup of coffee at his left elbow, a diamond hafted dagger in his girdle, and in his right hand a large volume, clasped with brazen clasps. On hearing their errand, he arose and kindled some spices on a sort of small altar in the middle of the room. He then walked round and round the altar for half an hour or so, muttering words to them unintelligible; and having at length drawn three lines of chalk about the altar, and placed himself upright beside the flame, desired them to seek a *seer,* and he was ready to gratify them in all their desires. There were, in the old days, whole schools of magicians here in Europe, who could do nothing in this line without the intervention of a *pure seer,* to wit, a *maiden's* *eye.* This African belongs to the same fraternity—he made them understand that nothing could be done until a virgin eye was placed at his disposal. He bade them go out in the streets of Cairo, and fetch up any child they fancied under ten years of age.

They did so; and after walking about for half an hour, selected an Arab boy, not apparently above eight, whom they found playing at marbles. They bribed him with a few halfpence, and took him with them to the studio of the African Roger Bacon. The child was much frightened at the smoke and the smell, and the chatter and the muttering—but by and by he sucked his sugar candy, and recovered his tranquility, and the magician made him seat himself under a window—*the only one that had not been darkened*, and poured about a table-spoonful of *some black liquid into the boy's right hand* and bade him hold the hand steady, and keep his eye fixed upon the surface of the liquid—and then resuming his old station by the brazier, sung out for several minutes on end,—'What do you see? Allah bismillah—what do you see? Illala Resoul Allah! What do you see?' All the while the smoke curled faster and faster. Presently the lad said, *Bismillah!*' I see a horse—a horseman—I see two horsemen—I see three—I see four—five—six—I see seven horsemen, and the seventh is a *Sultan.*' 'Has he a flag?' cries the magician?—'He has three,' answered the boy. ''Tis well,' says the other 'now halt!' and with that he laid his stick right across the fire, and standing up addressed the travellers in these words:—'Name your name—be it of those that are upon the earth, or of those that are beneath it; be it Frank, Moor, Turk, or Indian, prince or beggar, living and breathing, or resolved into the dust of Adam, 3000 years ago—speak, and this boy shall behold and describe.'

"The first name was William Shakspeare. The magician made three reverences toward the window, waved his wand nine times, sung out something beyond their interpretation, and, at length called out, 'Boy, what do you behold?'—'The Sultan alone remains,' said the child—'and beside him I see a pale-faced Frank, but not dressed like these Franks—*with large eyes*, a pointed beard, a tall hat, roses on his shoes, and a short mantle! The other asked for *Francis Arouet de Voltaire*, and the boy immediately described a lean, old, yellow faced Frank, with a huge brown wig, a nutmeg grater profile, spindle shanks, buckled shoes, and a gold snuff box?' Lord Prudhoe now named Archdeacon Wrangham, and the Arab boy made answer, and said 'I perceive a tall, gray-haired Frank, with a black silk petticoat, walking in a garden with a little book in his hand. He is reading on the book—his eyes are bright and gleaming—his teeth are white—he is the happiest looking Frank I ever beheld.' Major Felix now named a brother of his, who is in the cavalry of the East India Company, in the presidency of Madras. The magician signed, and the boy again answered. 'I see a red-haired Frank, with a short red jacket, and white trowsers. He is standing by the sea-shore, and behind him there is a black man in a turban, holding a beautiful horse richly caparisoned.' 'God in heaven!' cried Felix. 'Nay,' the boy resumed, 'this is an odd Frank—he has turned round while you are speaking, and, by Allah, he has but one arm!' Upon this the major swooned away. His brother lost his arm in the campaign of Ava!"

Mental Powers of Clairvoyants.

There is apparently, as much difference in the mental powers of clairvoyants, as their is in these individuals in their natural waking state. There is also a great difference in the relative clearness of their visions, and in the same individuals at different times. Some again will see very clearly, and describe very accurately an hour or two, and then become weary or exhausted, when they will make mistakes, and little or no dependence can be placed upon any thing they say. They also sometimes become displeased, and aware of their superior mental powers, give vent to their spleen by attempts to deceive those around them. One of the best examples of their extraordinary mental powers, is that described in the following account of some phrenological experiments in Hartford, Conn., in January, 1842.

"The subject was an interesting married lady, of high intellectual cultivation, most respectably connected, and of unimpeachable integrity.

"An eminent lawyer being introduced to her, she began with him the discussion of some legal question, astonishing us by the clearness of her conceptions, or keeping us in a roar of laughter by the lively sallies of her wit. During this conversation, some one behind her placed his hand near her head, without touching it. She instantly evinced embarrassment, forgot the subject of discussion, and could not go on until the hand was removed. The magnetiser then placed his hand upon her forehead, her recollection was restored and the conversation renewed. The magnetiser then touched the organ of veneration, when she abruptly terminated the discussion, assuming an attitude of devotion, and refused all farther communication with the physical world. Her devotions being ended, she was put in communication with a scientific gentleman, with whom she held a long and interesting conversation on the subject of Animal Magnetism; boldly controverting his arguments and giving her own view of this extraordinary science with great clearness of thought and beauty of expression. And here she seemed like an ethereal being—a being of another creation—and in the language of the eminent divine, to whose church she belongs, "she appeared perfectly sublimated." After this she astonished all by determining with wonderful accuracy the phrenological character of various individuals present, and describing with most minute exactness, their several diseases, acute or chronic, incipient or confirmed. A gentleman present was requested to sing and play a German song for her. The first note struck brought her to the piano, when during the prelude she persisted in standing, but the instant he commenced the song, she sat down by him, and with a full, sweet voice, accompanied him in the very words he sung, although in her natural state she has no knowledge of that language. She then accompanied a French gentleman in one of the songs of his country, and afterward began again the German song, which the pianist had been requested to sing once more. During the performance of this she was demagnetised, and of course, discontinued her accompaniment. Being asked by the writer why she stopped, and if she would not still accompany the other voice, she replied that she knew neither the words nor the air."

These feats, in the somniscient state, of understanding and speaking in unknown tongues, or in a language unknown to these persons in the natural state, have been frequently repeated in this city. They were, moreover, practised in the ancient Pagan Temples, and by the apostles of the Christians. See Acts of the Apostles, chapter 2.

"Magnetism appears to have been well understood by the Egyptian hierarchy, not only from some of the effects we find recorded, but in one of the chambers (of the Temple) whose hieroglyphics are devoted to medical subjects, we find a priest in the very act of that mesmerism which is pretended to have been discovered a few years ago. The patient is seated in a chair, while the operator describes the mesmeric passes,* and an attendant waits behind to support the head when it is bowed in the mysterious sleep."—DUBLIN UNIVERSITY MAGAZINE, Oct. 1843.

The higher orders of the Christian priesthood continued to be initiated into the mysteries taught in the temples, long after the Christian era; and this was a matter of great importance, for it was necessary for them to get up shows and theatrical performances, on holidays, in imitation of the Pagans and of the lesser mysteries, to amuse their audiences, and these were continued, even in England, as late as the last part of the sixteenth century.—HONE'S ANCIENT MYSTERIES, &c., LONDON, 1823.

St. Cyril, Bishop of Alexandria, in A. D. 412, in his VIIIth book against Julian, gravely observes: "These mysteries are so profound and so exalted, that they can be comprehended by those only who are enlightened. I shall not therefore attempt to speak of what is most admirable in them, lest by discovering them to the uninitiated, I should offend against the injunction not to give what is holy to the impure, not to cast pearls before such as cannot estimate their worth."

Theodoret, Bishop of Cyzicus, in Syria, A. D. 420, in his dialoge, entitled, "The Immutable" introduces Orthodoxus, speaking thus: "Answer me, if you please, in mystical and obscure terms, for, perhaps, there are persons present who are not initiated in the mysteries."

Cases successively treated with Sulphate of Quinine

By C. SEARLE, M. D., M. R. C. S. L., Bath.

Scarlatina.—I was requested by a lady, twenty miles distant, to visit her family as soon as possible, as a son and daughter were dangerously ill with scarlet fever. I reached the place of her abode the same evening, when the son, I found, had died two hours before. The daughter, a delicate girl, aged seventeen, I found delirious in bed, with great difficulty of deglutition, a small irritable pulse at 120, and an excited skin. Leeches were then being applied to the temples, and powders of calomel and antimony being administered every two hours. The leeches I directed to be immediately removed, and sent for the medical attendant, on consultation with whom, on his arrival, as he declined any responsibility in the measures I thought it necessary to pursue, the cure was thrown altogether into my own hands. The patient's skin I now had sponged with tepid water, and the throat gargled, or rather mopped, occasionally with a large hair pencil, dipped in a mixture of strong chilly vinegar and honey, which produced a copious muculent salivation. Soon after this a grain of quinine, in solution, was administered, with a tablespoonful of port wine; and the same was repeated every two hours throughout the night, and two or three spoonfuls of sage and

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"*One of his hands is raised above the head of the sick person, and the other is on the breast."

wine between each dose. On the following morning the throat was much better, the fever had declined, and she expressed herself as feeling in every respect better. The remedies were continued, and in the evening all danger was at an end. After this she continued the quinine in doses of three or four grains during the day, and was up and well by the end of the week.

Another son and a servant of the same family were attacked the day after my arrival at the house, the disease being of epidemic prevalence in the town and for many miles around. They were both treated by an emetic in the first instance, followed up by a dose of calomel and jalap; and after the operation of this by a tea-spoonful of bark-powder, with two table-spoonfuls of port wine, every two hours, with immediate convalescence; and this treatment becoming now general in the town, was very successfully pursued.

Erysipelas.—An infant, fourteen months old, was attacked with erysipelas on the face, which extended down the neck to the chest, and down the arms to the finger ends, the hands becoming œdematous. Calomel, antimony, and purgatives were freely administered for more than a week without permanent benefit; on the contrary, the disease was extending itself, and the child had become comatose. Under these circumstances half a grain of quinine was given every two hours, and a blister applied to the thigh. The amendment was almost immediate, and the child was two days after convalescent.

I have only to add, in conclusion, that the above are not a few choice cases selected from among many, in support of the opinion I have previously advanced, that quinine is a remedy which of late years has been too much neglected in the treatment of these varieties of fever; but as I am out of practice, these are, although few, the only cases of the kind with the treatment of which I have had anything to do. June 10, 1843.

In Sub-Arachnoid Hœmorrhage.

False membranes never occur, but in the intra-archnoid hæmorrhage they are always found around the effused clot on the fourth or fifth day. Paralysis of motion rarely accompanies sub-arachnoid hæmorrhage, but commonly intra-arachnoid hæmorrhage; paralysis of sensation is rare in both kinds. Deviation of the mouth does not occur in these cases, but sleep and coma are almost constant symptoms. Delirium and fever accompany intra-archnoid hæmorrhage alone, but from this disease the patient may recover; while sub-arachnoid hæmorrhage has been found constantly fatal within eighty days.

Treatment in Cholera.

A physician of Freienwalde has it is said, in the "Medic. Zeitung," proved the acetate of lead, with strychnine, to be effectual in causing the immediate cessation of the vomiting in sporadic cholera and in tending to the speedy cure of that disease. The urinary secretion is, however, suspended under its employment, sometimes for as long a time as two days. Dr. Steinbach, of Brandenburg, is an advocate for the acetate in the same disease, but in combination with a solution of pure tannin. This mixture, he says, is specially indicated in the cases in which a softening of the gastro-intestinal mucous membrane is present.

Nervous Headache, &c.

A physician of Marseilles has found headaches of a kind dependent on nervous disturbance, obstinate tic doloureaux, &c., curable by the application of liquor ammonia (*l'ammoniaque depuis le vingt-cinquieme degre jusqu' au trente-deuxieme,*) on a dossil of lint, to the alveolar border of the palate. The solution is to be retained in contact with the mucous membrane immediately within the teeth, until an abundant effusion of tears is excited, when the exacerbation of pain will suddenly cease. This remedy proves more efficient against tic doloureaux attacking the frontal and facial than the occipital nerves; but it has been successful in several authenticated instances in which the latter have been the seat of pain.

Pathology of Tetanus.

At the autopsy of a patient who died in the Hotel Dieu of Paris, with tetanus supervening on fracture of the leg, numerous ecchymoses were found on the fibrous sheath of the spinal cord; and external to that membrane a collection of black and liquid blood occupied the lower part of the vertebral canal to the height of five or six inches. The spinal cord itself was softened throughout its lower two-thirds, and closely adherent to its pia mater; and the ramollissement continued though in a less degree, to the occipital foramen, terminating just below the corpora pyramidalia. Within the carnium the pia mater was observed to be greatly injected, and there was extensive softening of the left anterior and middle lobes of the brain. In the sciatic nerve of the right side the side of the fractures ecchymosis and inflammation were perceptible, but there was neither in the nerve of the opposite side. (It should be stated that the autopsy was not made until fifty hours after death.) Numerous other cases are cited, in which softening of the nervous organs and similar appearances have been observed; but tetanus has occurred without such having been afterwards discoverable.—*Archiv. Gen. de la Med.*, April, 1843.—*London Lancet.*

The pathology of these cases, confirms what we had formed of the disease in a case of a lady, to whom we were called in consultation about 15 years since. Tetanus came on in consequence of an injury (from a puncture of a nail,) to the fore-finger of the right hand. After suffering a number of days, we found her in a comatose and apparently hopeless state with opisthotonus, from which she could not be aroused, but shaved the top of the head, and cupped her freely and obtained about 12 ounces of blood, when she awoke, and from that time became convalescent, and soon recovered her health.

Tetanus.

To the Editor.—Sir. —In a late number of The Lancet, I find an account of the post-mortem appearances in a case of tetanus. As the pathology of the disease does not appear to be understood, I would ask whether, *a priori*, we should not suppose it to depend on an irritable and, in some cases, an inflammatory state of the spinal cord? If this inference be correct, what is the treatment indicated?

I. Large bleeding, to subdue irritation and control the spasms.

II. Blistering along the whole spine.

III. Calomel in large doses, combined with opium, continued until its specific action on the system is induced.

I am aware that each of these means has been tried, severally, and with various results, but I have not met with any case of their conjoint use. I am, sir, your obedient servant,

H. Whitworth.

St. Agnes, *Aug.* 22, 1843.—London Lancet.

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Paralysis of the Bladder, cured by the Tincture of Cantharides.

A patient was lately admitted into the Hopital de la Pitie with paralysis of the bladder, for the relief of which all ordinary methods of treatment had failed. M. Lisfranc ordered the direct application of tincture of cantharides to the bladder by the following mode: One drop of the tincture was let into the organ through a catheter, and followed by an injection of simple lukewarm water. Next day two drops were similarly instilled, and the like operation was repeated night and morning for several succeeding days, an additional drop of the tincture being added on each successive occasion. By this method of treatment a cure was soon effected. M. Lisfranc found no perceptible irritation to result from the use of the tincture in an undiluted form, while the direct application of the remedy to the organ affected, was clearly preferable, in every respect to its internal administration.—*London Lancet.*

Violent inflammation would have been the result, if this tincture had been applied to a serous surface connected with the nerves of sensation; but in this case it was the moter nerves only in which it came in contact, and hence the importance of the distinction as in this case between the sensibility of the one, and the insensibility of the other.

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Pathological Researches into the Local Causes of Deafness

Based on One Hundred and Twenty Dissections of the Human Ear By Joseph Toynbee, F. R. S., Surgeon to St. George's and St. James's Dispensary.

The researches of which this is a summary view, are in continuation of a previous paper contained in the 24th volume of the Society's "Transactions." The principal practical conclusions to which they lead is, that the most common cause of deafness is chronic inflammation of the mucous membrane which lines the tympanic cavity; and that by far the greater majority of cases commonly called nervous deafness ought, more properly to be attributed to this cause. The pathological conditions to which inflammation of the mucous membrane gives rise are divided in the papers into three stages.

In the first stage, the membrane retains its natural delicacy of structure though its blood vessels are considerably enlarged and contorted; blood is effused into its substance, or, more frequently, at its attached surface. Blood has also been found between the membrane and the membrane of the fenestra rotunda, and in very acute cases lymph is effused over its free surface.

The second stage is characterized by the following pathological conditions:

First, the membrane is very thick, often pulpy and flocculent. In this state the tympanic plexus of nerves becomes concealed, the base and crura of the stapes are frequently entirely embedded in it, while the fenestra rotunda appears only like a superficial depression on the swollen membrane.

Second, concretions of various kinds are visible on the surface of the thickened membrane. In some cases, these have the consistence of cheese, and are analagous to tuberculous matter; in others they are fibro-calcareous, and exceedingly hard.

Third, by far the most frequent and peculiar characteristic of this second stage of the disease is the formation of the membranous bands between various parts of the tympanic cavity. These bands at times are so numerous as to occupy nearly the entire cavity; sometimes they connect the inner surface of the membrana tympani to the internal wall of the tympanum, to the stapes, and to the incus. They have also been detected between the malleous and the promontory, as well as between the incus, the walls of the tympanum, and the sheath of the tensor tympani muscle, as well as between various parts of the circumference of the fenestra rotunda; but the place where the adhesions are most frequently visible is between the crura of the stapes and the adjoining walls of the tympanic cavity; this was the case in twenty-four instances out of a hundred and twenty dissections, being a fifth of the number. These kinds of adhesions sometimes contain blood and scrofulous mater.

In the third state of inflammation of the membrane, it becomes ulcerated, the membrani tympani is destroyed, and the tensor tympani muscle is atrophied. The sosicular auditus are diseased, and ultimately discharged from the ear, and the disease not unfrequently communicates itself to the tympanic walls, affecting also the brain and other important organs.

Changes of Mercurials in the System.

The fact that calomel could be converted into corrosive sublimate in the system, was known many years ago. But the exact circumstances of this transformation were not sufficiently understood. Mialhe, in an elaborate set of experiments on the subject (Ann de Chimie, v. 160,) says, the action occurs when calomel is brought in contact with a solution of an alkaline chloride, that the quantity of sublimate formed is in proportion to the amount of alkaline chloride present, and the action increases in proportion to the concentration of the alkaline chloride. His experiments were made with common salt and sal-ammoniac. The action is much increased by the presence of air and dextrine, but is retarded by fat and gum. By simply boiling calomel in distilled water, sublimate is formed. Mialhe extended his observations to all the compounds of mercury, and obtained similar results. He concludes that it is corrosive sublimate which is the active agent in medicine. If this idea should be confirmed, it should lead to the substitution of this form of mercury for all others. The same chemist recommends the hydrated proto-sulphuret of iron as a complete antidote to corrosive sublimate. To prepare it copperas is to be precipitated with dydrosulphuret of sodium, the precipitate washed and preserved in an air-tight bottle.—*Dr. R. D. Thomson in Proceedings of Glasgow Philosophical Society, No.* 4.

Statistics of Lithotomy.

In the five years, 1836 to 1840 inclusive, twenty-four operations for stone in the bladder took place at the Hotel Dieu in Paris. In six of these, which were cases of lithotrity, all the patients survived. Of the other eighteen cases in which lithotomy was performed, eleven were attended with perfect success, and the recovery of the patient, but the seven remaining terminated in death, in one case two months after the operation; and in the rest only from two to five days. In these seven, two of the patients were upwards of seventy years of age. Of the whole twenty-four individuals operated on, thirteen were from three to twenty-five years, three from twenty-five to fifty years, and eight from fifty to seventy-five years;—a proportion which seems to indicate that calculus is more frequent in youth than in age, and that middle life is nearly exempt from its access. In 1841 six patients were operated on in the same hospital by M. Roux, on four of whom lithotomy, and on two lithotrity was practised. The mortality in this year was greater than in any of the five preceding; five out of the six patients died; and the case of recovery was one in which lithotomy had been employed.—*Gazette Med.*, No 47.

Statistics of Anal Fistula.

During the five years from 1836 to 1840 inclusive, 119 patients were operated on at the Hotel Dieu, Paris for fistula in ano. Of these persons 110 left the hospital cured, and 9 (or 1 in 12) died. The mortality from the operation was progressively less in proportion from the first to the last mentioned year. Of the 119 individuals operated on, 32 were of ages between 15 and 25 (4 only being under 20 years of age,) 55 from 25 to 40, and 32 between 40 and 60 years old (only 3 being more than 51 years old.) Only 12 of the whole 119 were females. Sedentary occupations, and whatever is productive of habitual constipation, have been considered fruitful cases of fistula; but the evidence elicited from the individuals suffering from the disease was by no means corroborative of such statements. The patients included indifferently sawyers, carpenters, masons, bakers, porters, and other persons accustomed to perpetual exercise, as well as tailors, bootmakers, cutlers, cabinet-makers, and others employed in sedentary pursuits. Some connection of fistula with a tuberculous diathesis seemed, however, to be apparent.—*Gazette Medicale de Paris.*

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The Hartford Journal says, that Dr. John S. Wolcott, son of the late Governor Wolcott, and the last of the Wolcotts in Litchfield, died suddenly on the 22d instant, from putting arsenic in a tooth to aleviate the toothache.

Dr. F. Bird, Physician to the Metropolitan Free Hospital, has lately successfully extirpated a dropsied ovarium, on which paracentesis had been performed no less than *ten times.* The incision was made on the right side, a little below the umbilicus, and the tumor, after being discharged of its contents, was withdrawn to the outside of the abdomen, and separated, with the greater part of the Fallopian tube, by the help of silken ligatures placed round its pedicle. The recovery was at first slow and doubtful, but at the end of three weeks, the patient was quite convalescent, and is now in the enjoyment of perfect health. The solid portion of the tumor was little larger than an orange, but when filled it would contain about two gallons of fluid, and weighed upwards of twenty pounds.—*London Lancet.*

These ovarian tumors which terminate in dropsy, are cases of tubercular disease of the ovaria, in which there is more or less pain produced by pressure on the lumber vertebræ, as in the case of tubercular disease of the uterus, of which the ovary are an appendage. Disease of the ovaria may however be distinguished from that of the uterus, by the difference in the size of the breasts—the largest being on the same side of the diseased ovaria, in consequence of atrophia of that on the opposite side. We have found these symptoms to be constant in twenty-six cases of undoubted disease of the ovaria, in which eight had terminated in dropsy.

Spontaneous Cure of Ovarian Dropsy.

The following case is recorded by M. Hay, at Altena, in Prussian Westphalia. A woman, aged forty-eight, who had previously been in perfect health, was the subject for some time of great uneasiness in the hypogastrium, when at length, on the right side of the abdomen, immediately above the ramus of the pubis, there appeared a large tumor, somewhat moveable, and unequally distending the abdominal parietes. The accompanying symptoms were pain in the thighs and the right leg; the lower extremities œdematous, dyspnœa, &c. The clear diagnosis furnished of ovarian dropsy had induced the practitioner to advise the operation of paracentesis, which was on the point of being performed, when a large serous discharge issued from the vagina and lasted about four days, at the close of which time the tumor and all its concomitants disappeared. It should be mentioned that this affection had no influence either in stopping or diminishing the menstrual discharge; only one ovary therefore, appears to have been affected.—*Medicinische Zeitung.*

Muscular Motion.

Numerous experiments on the relative heat and pulsation of animals, under different latitudes have shown that men in this climate, pulsate, on an *average*, 78 times in a minute, while in the Canadas they do not exceed 57. This circumstance affords proof positive of the fact that the transitions from heat to cold, vary the powers of pulsation. The common *watch* is computed to tick 17,154 times in one hour. This is 411,686 times a day, and consequently 150,165,390 in a year, supposing the year to be but 365 days: and as some watches do, by care, preserve their powers of action for 100 years, we have the gross number of 15,016,539,000 times for one time-piece. Now, although the watch is formed of *hard* metal, and therefore, to all appearance, is likely to endure long, yet, man possesses, within him a piece of machinery composed of an extremely soft material, which beats nearly 5,000 times every hour, 120,000 times each day, and 43,000,000 times per year; and consequently 4,380,000,000 times in 100 years—an age frequently attained by healthy persons who lead temperate lives. This piece of machinery is the *Heart.*

New Pessaries.

Mr. Snow laid before the Westminster Society at its last meeting, some pessaries which he had invented, consisting of sponge cut into a globular form and tied up in oiled silk, in such a manner that, when compressed, the air contained in the interstices of the sponge was displaced from the instrument, which was thus reduced in size, but gradually returned to its original dimensions when the pressure was discontinued. He said that, by this capability of being reduced in size, the pessaries were very easy of introduction; he had found them more effectual and create less uneasiness than any other kind which he had used; and as the oiled silk protected the sponge from all extraneous matters, they were calculated to be durable. He had got Mr. Read, Regent-circus, to make them for him.—Lancet.

This new invention, like many others in our father land, is an old invention in this country. It was used here more than 20 years ago, in cases of prolapsus uteri, with ulceration, when the pressure of no other pessary could be borne. Its use here is now mostly confined to these cases. The glass pessary, is, however, on many accounts, much the *neatest* and best for common cases.

Tuberculous Deposite in the Pia Mater.

The following case is selected from a number of others of a similar kind in a late number of the "Journ. de la Soc. de Med. de Nantes." A young man, twenty-five years of age, had long suffered from disease of the heart; he was seized with inflammation of the left pleura, which became afterwards complicated with pneumonia and pericarditis. His disease proved fatal, and towards the termination of his life he daily had fits of an epileptic character, losing consciousness for some minutes, his face becoming purpled and his arm agitated by involuntary movements. After death, on the middle and posterior portions of the right hemisphere of the brain, many tuberculous deposites, of a grey or bluish color, underneath which parts, the brain was in a softened state. Deposites of the like nature were discovered on the inferior surface of the cerebral lobes, on the upper surface of the cerebellum, and in other parts of the pia mater. In the thorax, the heart was found hypertrophied, and adherent to the pericardium; adherences also existed between the right pleuræ pulmonalis and costalis; the left lung was partially hepatised, and there were numerous tubercles in the bronchial glands, *but none existed in the lungs.* It is singular also that the patient is not stated to have ever been delirious during his malady.—LANCET.

Tubercular disease of the brain is a common cause of insanity. We have a case of a lady who had been insane about a year, and in whom we detected tubercular disease of the brain by the magnetic symptoms, and who became perfectly sane in *seven* weeks thereafter, under the influence of the *magnetised gold pill.* She has continued sane to this time, now more than six months.

Another Wonder.

We learn from the Bangor Democrat, that a successful surgical operation was performed on a woman in Bangor on Monday, while she was in the magnetic sleep. The lady is the wife of Mr. Ebenezer Davis, of Jarvis Gore, (Penobscot Co.) She was thrown into the mesmeric state, when a tumor was removed from her shoulder by Dr. Rich. While he was performing the operation, Mrs. D. exhibited no other symptoms of suffering than a slight twitching of the muscles and a compression of the lips. When awakened, she was unconscious that any thing unusual had taken place in regard to herself—she did not know that the tumor had been removed until informed by others. The parties are all respectable, says the Democrat.

Physiology of the Spleen.

Our professor of anatomy, Dr. Hargrave, has paid some attention to the subject, and he concludes that its chief use is to receive the blood, as a temporary reservoir, or diverticulum, when any obstruction in the heart, lungs or liver, renders it necessary that they should be relieved from the pressure of that fluid. The absence of valves in the splenic veins permits of regurgitation, and other circumstances render this opinion probable. He always conceives that it performs a similar office for the mucous membrane and the skin. When the blood is driven from those membranes by cold or rigors, it is received into the spleen for the time, and returned to the general circulation as soon as the balance of the circulation is restored in those organs. Certainly the phenomena of intermittent fevers go far to support this opinion.—*Dr. Benson's Lectures; Dub. Med. Press.*

Post Mortem Spleens.

To the Editor.—Sir: The quantity of crude speculations which your readers have lately been presented with on the office of the spleen was brought to a conclusion by your lengthened summary, showing the result to be even more jejune than might have been feared by those who were aware of the inanity of the subject. To sum up your summing up, nothing is yet known of the functions of the spleen. Still these canvassings of opinions, if brief, are agreeable enough. Every one, perhaps, has his peculiar opinions on the use of the spleen. I expect however, that you will never know the truth until you meet with a case of opening in the abdomen opposite the spleen, as there was with regard to the stomach, permitting the changes to be observed as they occur, and then my opinion is that you would see,—what you would see.

But I would beg to know whether the pathology of the spleen be not as defective as its physiology? Whether the cases you have published (*passim*) of spleen disease be not erroneously stated? And I would add an appendix to this spleen dispute, in a few words on the morbid appearances thereof.

I had an opportunity, when assistant to Dr. Hodgkin, of carefully observing the state of the spleen in many hundred inspections, and I noticed the singular variations of character that it presented, particularly the very soft and pulpy state, which was usually ascribed to the effects of inflammation or specific disease. "See how inflamed the spleen is?" Cases have been thus described in your journal. Now, this is only the result of a general atony, or relaxation of fibre, but, owing to the peculiar structure of the spleen, most marked or pronounced in that organ. It follows chronic diseases, prostration, typhus in hot weather, gangrene, hæmorrhagic diathesis, purpura, petechiæ, &c. The worst case was where the spleen was quite a pulpy, &c.

Along with the spleen, the kidney, liver, heart, brain, &c., are in a degree softened.—There is cadaveric exudation; the course of the veins conspicuous. Other splenic phenomena are very interesting and important as concerned in fatal accidents. The duties of a coroner will be badly performed by one ignorant on these points. Your obedient servant, H. P.

April 16.

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The editor of the London Lancet continues to rail against animal magnetism, to gratify the prejudices of a certain class of his readers—the old ladies in breeches, who imagined they had monopolised all the knowledge in the healing art.

Weak and bigoted men always gratify their vanity in opposing the introduction of additions to our knowledge, which not being taught in the schools in which they were educated, are consequently, above their comprehension. The fury with which such self-sufficient philosophers opposed the introduction of the theory of the Copernican system of astronomy is equalled only by that with which they now oppose the introduction of the theory of the magnetism of the human system. "Do we not see the sun rise in the east,—move through the heavens and set in the west? and must we now believe against the plain evidence of our own senses, that the earth moves around the sun! and does not the Bible say that the sun rises in the east and sets in the west? What sacrilege! Bring the faggots, and we'll consign these new philosophers to the flames!" exclaimed the bigots, and Copernicus barely escaped those flames, by refusing to allow his work to appear until the day of his death!

Medicinal Employment of Iron and Iodine.

Diabetes cured by Iodine of Iron.—B., a man, forty years of age, of a naturally strong constitution, and who had usually enjoyed good health, became subject, without any known cause, to a difficulty of digestion, accompanied by a feeling of tightness in the epigastric region, diminished appetite, insatiable thirst, increase of urine, and, in short, all the other symptoms of diabetes, on which account, a few months since, he went into the Hotel Dieu at Paris. For three weeks previously he had passed daily between three and four gallons of saccharine urine, when he was put on a course of ioduret of iron to the amount of about fifteen grains in the twenty-four hours, in four doses, accompanied with a generous diet, which, however, had been previously employed alone without any salutary effect. Under this treatment the quantity of urine began at once to diminish, and in three days the quantity passed daily was less than three gallons, and the urine contained much less sugar. The thirst also was considerably lessened. Within a short time afterwards the quantity of urine had decreased to a gallon daily. The same treatment was continued which had been pursued throughout, and five days afterwards the patient was discharged cured.

Prurigo.—A solution of iodide of potassium has been found of considerable benefit as an external application in prurigo; and in M. Lisfranc's practice the use of iodine has prevented the extension of cancerous sores, though it has not superseded the use of the knife.—*Gaz. des Hop.*, Oct. 1842.

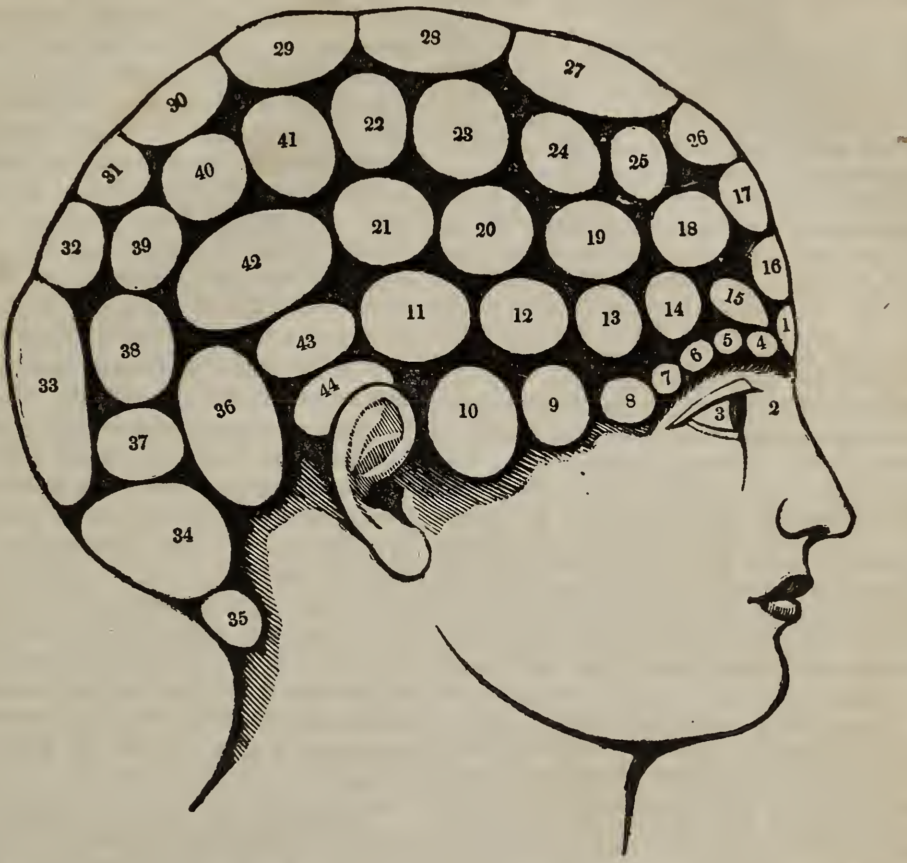
Hydrocele.—M. Serre also recommends the employment of this remedial agent in solution (one part of tinct. iod., to four parts of water) as an injection into the tunica vaginalis after the operation for hydrocele, in preference to wine, to which he seems to show it is generally superior in every point of view. —*L'Experience.*

Tendinous Re-union.

M. Berard lately exhibited to the French Acad. of Med. a preparation of the tendo-Achillis, which had been divided six months previously, but had become united again by an intermediate substance of a character different from the tendo-Achillis itself, to both cut extremities of which it was, however, closely adherent. M. Berard finds that by dividing this tendon in the case of fracture of the fibula with dislocation of the foot outwards, this accident, otherwise so difficult of remedy, becomes easily repaired—*London Lancet.*

Active Ointment of Mezereon.

Herr Hoffmann, a chemist, of Landau, makes a very active preparation by dissolving a drachm of the alcoholic extract of mezereon in four drachms of alcohol, and mixing the solution with about 4¼ lbs (avoird.) of lard. This ointment is said to be a very efficient counter-irritant.—*Lancet.*



New Phrenological Organs.

On a comparison of the great and fatal disparity in the results, both in the number and situation of the new phrenological organs, obtained in exciting different parts of the brain in the mesmeric state, by Messrs. Fowlers, Sunderland, Buchanan, and King, they are now satisfactorily accounted for, with a very few exceptions, (marked †,)—some by their having excited opposite sides of the same organ, and others by their having excited portions of different organs, at the same time. With such a license with the brain, we can, like an old fiddle, play any tune upon it that may suit the propensities of the marvellous.

There appears, however, to be no doubt but some of these are true organs. The vermiform process in the median line of the cerebellum, is apparently the organ of voluntary motion. This motion is interrupted in chorea, or St. Vitus' dance, which is tubercular disease of this organ, as is disclosed by the magnetic symptoms.* In fifteen skulls of different nations, we found a prominence in thirteen on the under and back part of them, or under the natural situation of that process in the skull. The accuracy of the organs of penetration and thirstiness are also confirmed by our observations, independent of those made by exciting the organs in the mesmeric state.

1. Individuality.
2. Form.
3. Language.
4. Size.
5. Weight.
6. Color.
7. Order.
8. Calculation.
9. Thirstiness. †
10. Alimentiveness.
11. Acquisitiveness.
12. Constructiveness.
13. Tune.
14. Time.
15. Locality.
16. Eventuality.
17. Comparison.
18. Causality.
19. Mirthfulness.
20. Ideality.
21. Sublimity.
22. Hope.
23. Marvellousness.
24. Imitation.
25. Suavity. †
26. Penetration. †
27. Benevolence.
28. Veneration.
29. Firmness.
30. Self Esteem.
31. Concentrativeness.
32. Inhabitiveness.
33. Philoprogenitiveness.
34. Amativeness.
35. Voluntary Motion. †
36. Combativeness.
37. Connubial Love. †
38. Adhesiveness.
39. Ostentation. †
40. Approbativeness.
41. Conscientiousness.
42. Cautiousness.
43. Secretiveness
44. Destructiveness.

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*Catalepsy and Epilepsy are cases of tubercular diseases of the cerebellum in which this organ is more or less involved.

Mr. Burritt, the "learned blacksmith," to the Rev. Le Roy Sunderland.

"A few months ago I received a communication from a gentleman residing in a remote part of the State, to this effect. He had sent a lad, in the *clairvoyant* state to the *moon*, where he made many discoveries with regard to the inhabitants, &c. Having found his way into a building resembling a school-house, he detected a book, which, upon opening, he was unable to read. At the request of the magnetiser, he copied off twenty-eight well-formed characters, as different from each other as the letters of our alphabet. These were forwarded to me to compare with the characters employed in the Oriental languages. A few weeks afterwards I received another letter from the gentleman, containing the results of another tour of discovery to the moon. The lad saw things more definitely this time; and took drawings of a monument and a metallic horn. Upon the monument was an inscription, written in the very characters which the boy found in the book. I have just written to the gentleman, requesting him to begin a new series of experiments upon the moon, simultaneously with Mr. Shepherd, and send the result to me. I would therefore propose that you do the same with your subject, and to publish the result of the three series together, should there be a striking correspondence.—The course I have proposed to Mr. S. and the other gentlemen, was, to take their subjects to the north-east side of the moon, and let them proceed through to the south-west side; then, from the west to the south-east; from north to south; and from east to west; describing what they saw, as would be natural to a traveller journeying through a new country. When each of the three subjects has been through in the above order, it might be of great interest to compare their *notes on the moon*."

We understand that at the meeting of the Royal Society on the 8th instant, a paper by Dr. Martin Barry was read, announcing his discovery of spermatozoa *within the mammiferous ovum*. The ova were those of a rabbit, taken, twenty-four hours *post coitum*, from the Fallopian tube.—LANCET.

Commentaries on some Doctrines of a Dangerous Tendency in Medicine.

And on the General Principles of Safe Practice.

BY SIR ALEX. CRICHTON, M.D., &C.

A work proceeding from an individual of high standing, who has passed the greater part of a long career in the active pursuits of the profession of medicine,—in early life an hospital physician and a teacher in London,—the contemporary of Drs. Reynolds, Warren, (the elder,) and Pitcairn, and numbering amongst his pupils the late Dr. Young—favorably known to the public as the author of "An Inquiry into the Nature and Origin of Mental Derangement;" also holding, for many years, the appointment of physician to the late Emperor Alexander, of Russia,—one who has retired from practice, and from whose bosom is withdrawn (we may presume) in such a production as this, every motive save that of a desire to confer a benefit upon his fellow creatures, being in the 79th year of his age:—a work from such a source demands attention and respect.

There are three commentaries. The greater part of the first is occupied in demonstrating the erroneous notion entertained by Haller and many of his successors, including Dr. W. Philip, of the possession by the arterial tunics of a muscular power, with the fatal tendency of such an error; but the physiological writers in our own Journal having generally held the same opinion as that of the author, we need not dwell upon it now. One or two statements, however, in this part of the book call for notice.

Upon mathematical data, furnished by the late Dr. Young, the conclusion is arrived at, that a quick pulse is indicative of a slow circulation:—

"The pulse may beat 130 times per minute, and yet the progressive motion of the blood from ventricle to auricle may be slower than in health."—P. 9.

The pulse being both quick and weak, its two most frequent concomitant qualities, the above proposition becomes self-evident, the quantity of fluid to be moved being the same, and provided the admission be made that its motion depends mainly on the action of the heart; so that the rate of pulsation, taken alone, is no index whatever of the progressive motion of the blood; and the only case in which a quick pulse corresponds with the increased celerity of the blood, is where the action of the heart is stronger, as well as being more frequent than natural, and accordingly the quantity of blood expelled at each ventricular contraction is either increased, or but little or not at all diminished. In a majority of cases the heart's action being increased in frequency, it is also more feeble, and, as a general rule, it would appear, that the frequency is proportionate to the loss of ventricular power. In these cases it is that a quick (it should rather have been written frequent) pulse becomes indicative of a slow circulation of blood.—LONDON LANCET.

Operations in disease of the Ovaria, and Spina Bifida.

Quackery.—The following ingenious notice, professedly of a new bi-monthly periodical, which appeared in a New York paper of the 15th inst., is a fair sample of the daily puffing process, by which a certain class of physicians in this city sustain each other—no matter how unimportant or unsuccessful their practice—and is now re-published for the benefit of their brother chips in other cities.

> *New-York Journal of Medicine and the Collateral Sciences—Edited by Samuel Forrey, M. D.*
>
> The second number of this valuable Journal has come to hand. The original department is, as usual, rich and instructive. Dr. Foltz has again contributed largely to its pages. Dr. F. reports one of the most extraordinary surgical operations which has ever been performed in this country. It was a case in which both ovaria had been successfully removed. It seems from the bibliographical account of this operation, that Dr. McDowell, of Kentucky, performed it first, and more succesfully than any other man in the world—and that Dr. Alban Goldsmith, of this city, is the second most successful operator in this, the greatest feat of modern surgery. Dr. David L. Rogers, of this city, has likewise performed it once. We notice this particularly, because we take it to be a matter of congratulation, that New-York talent has been able in this, as in many operations, to perform successfully that which has again and again baffled the skill of the best talent in Europe. Some idea may be had of the immensity of this operation, when it is remembered that it is done by laying open the abdomen, and removing from the midst of the intestines tumors as large as a man's head. This, too, while the patient is writhing in agony, and the operator moving his knife through the mass of intestines that protrude from the wound. We notice also, from the note book of that talented and able operator, Dr. John Watson, of this city, an interesting case of *spina bifida*, successfully operated upon by Dr. Stevens.* The *resume* of Dr. Lee's work on *dietaries*, by the able editor, is full of practical interest, so much so that we mean to present a digest. We commend this journal to the support of the profession. And we assure the editor that when he can command for his pages the contributions, of such men as Francis, Mott,† Goldsmith, Stevens, Watson, Foltz, and the like, he can easily outstrip, with our immense hospital facilities, any journal in the country.

The following extracts, from Cooper's Dictionary of Practical Surgery, with notes and additions by D. M. Reese, M. D.—J. & J. Harper, New York, 1830—will give a fair view of the dependence that may be placed upon the statements of the class of physicians before mentioned:—

Ovarian Tumors.

"The first attempt to remove them by an operation was made in 1776, by L. Aumonier, surgeon in chief of the Hospital in Rouen, (France) and is reported as a successful case. See Good's study of Medicine, p. 423."—(This operation was performed many years before Dr. McDowell was born.) "In the London Medical Gazette for 1829, Dr. Hopfer, of Biberback, has reported three cases of extirpation of diseased ovaria, by Carrysman. The first was performed in 1819, and proved fatal in thirty-six hours after the operation. The second in 1820; this case was successful, and the woman has since borne children. The third case occurred in the same year, and the patient never recovered from the shock of the operation." "M. Lizars, in the Edinburgh Journal, for October, 1820, relates an attempt to extirpate an ovarian tumor, but unfortunately, on cutting into the abdomen, he found no tumor to remove.‡

Besides these cases by "the best talent in Europe," Dr. Jefferson, of Ipswich, has performed the operation once, which was successful—Dr. West, Tonbridge, once—and Dr. Clay, of Manchester, twice, and all successful. Dr. Phillips, of London, once, which proved fatal.—See Braithwaite's Retrospect, part 7th, pp. 99–100. "Professor Smith, of Yale College, has given an interesting case of the successful removal of an ovarian dropsy, by an operation. See Am. Med. Rec., 1822. Dr. D. L. Rogers, of this city, removed an ovarian tumor in 1829. The operation was successful. "The tumor was composed of a large sac, which contained a fluid drawn off in different operations for tapping. One third of the tumor was solid, containing a fibro-cartilaginous substance. It weighed three and half pounds." "Dr. McDowell, of Kentucky, has reported three cases in which he operated successfully for tumors in the abdomen, ovarian and hydatid. A doubt exists in regard to these cases; and certainly the mode of describing them is calculated to confirm that doubt."—See Med. Chir. Rev., vol. 5, page 216.

Thus much for the operations in cases of ovarian tumors, and of the notice of the New-York Journal of Medicine, and the collateral sciences, in the New-York paper referred to, which it will now be seen was intended only for the "green horns" in the community and of the profession. But "we notice also from the note book of that talented and able operator, Dr. John Watson, of this city, an interesting case of *spina bifida*, successfully operated upon by Dr. Stevens." Bah! see Cooper's Surgical Dictionary, before quoted; article Spina Bifida, in which it will be seen Sir Astley Cooper fully succeeded in one case, in 1809. See also the New-York Medical Repository for 1813, p. 28, where it will be seen that Dr. H. H. Sherwood, of this city, operated with equal success in one case in 1811.§—*New-York Herald, Sept.* 28, 1843.

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* Professor of Surgery in the old Medical College.

† Professor of Surgery in the new Medical College. The other gentlemen mentioned are all either ex-professors, or adjuncts, and professors in expectancy of these Colleges.

‡ See the symptoms I have introduced to distinguish diseases of the ovaria.

§ I have since operated in three cases, the first of which (by ligature) proved fatal in 36 hours—the two last (by excision) like that of 1811, were both successful.—Ed.

Effectual Reduction of Strangulated Hernia by Ether.

M Vela has been enabled to effect the reduction of strangulated hernia in many cases by the external application of sulphuric ether, accompanied with friction ; in which plan of treatment he was successfully followed by other French surgeons. M. Barbon, of Bordeaux, was called to a case inguinal hernia in a woman fifty-seven years of age, forty hours after strangulation had occurred. When all other attempts at reduction had failed, he had recourse to irrigations of ether over the surface of the tumor, which, to his surprise, disappeared in the space of five or six minutes, and was followed by a copious evacuation of the bowels, and the prompt recovery of the patient. The same practitioner reports another case, occurring in a man thirty-six years of age, to which also he was called. The hernia formed a tumor eight inches in length, by an equal breadth, and extending to the base of the scrotum ; it was hard, and so painful that the taxis was impracticable. Copious blending, baths, and frictions with belladonna, &c., having proved of no use, the patient was raised by means of a bolster under the hips, so that the tumor would present for the manipulation of the operator its whole surface which was accordingly irrigated with ether gently rubbed over it by the hand.—Three minutes after the commencement of this process the hardness of the tumor began to give way, the hernia diminished in volume, and seven or eight minutes were sufficient to produce its total reduction, followed by the speedy cessation of all the previous alarming symptoms. The ordinary operation for strangulated hernia is sufficiently difficult and doubtful in its result to render any medical agent tending to supersede its necessity a valuable adjunct to surgical science.—*Gazette des Hopitaux*, Sup. Oct.

Nitric Acid in Internal Hemorrhoids.

Dr. Houston, of Dublin, is greatly in favor of the employment of nitric acid in cases of vascular tumors, in preference either to excision or to any other chemical application. The acid, he says, may be applied in the following manner:—

"Let the patient strain as at the night-chair, so as to bring the tumors fully into view ; and, while they are so down ; let him either lean over the back of a chair, or lie down in the bent posture on the side on which the disease exists, with the buttocks over the edge of the bed. Let a piece of wood, cut into the shape of a dressing-case spatula, be dipped into the acid, and then, with as much of the acid adhering to it as it will carry without dipping, let it be rubbed on the tumor to the extent desired. The due effect of the acid on the part is shown by its changing it to a greyish-white color. If a superficial slough be all that is required, a single application may be enough ; if a more deep one, then two or three applications of the wood, dipped in the acid may be made in quick succession, which being finished, let the part be well smeared over with olive oil, provided beforehand for the purpose. The prolapsed parts should then be pushed back within the sphincter, the patient put to bed, and an opiate administered. The pain of the application is sharp and burning at first, but goes off in two or three hours, and does not return again in the same form. A general uneasiness about the anus on motion, together with a slight sense of heat, fulness, and throbbing, are felt for a few days, and there may be some little feverishness ; but I have not seen or heard of any more serious effects from the remedy."

"The symptoms following the application of the acid are usually so mild as not absolutely to require confinement to bed more than a few hours, although for many reasons such confinement may often be desirable. On the third or fourth day, a purgative draught should be administered, when the bowels will be found to yield to the medicine, generally without either pain or prolapse of the rectum. The progress after this to healing is rapid, and free from any disagreeable symptoms."—*Dublin Journal of Medical Science*, March, 1843.

Analogy between Diseases of Different periods of Life and Corresponding Periods of the Year.

Some of the French physicians, adopting the notions of the ancients, have lately promulgated the doctrine of an analogy between the diseases occurring at different periods of life, and those which are produced at corresponding periods of the year.. Thus in *spring*, they say, it is the young who suffer most from disease,—the maladies that are chiefly produced in that season, such as inflammatory diseases, and others which are dependent on too copious a general or partial supply of blood, to which persons of early age are more especially subject. The diseases which prevail in *summer* are mostly those attacking persons of middle age, as, for instance, diseases affecting the biliary organs ; and the *autumnal* complaints are principally experienced by individuals of more advanced years. The *winter*, they observe, is fertile in rheumatisms, neuralgia, catarrhs, apoplexies and other diseases which infest the aged, who, for the most part, pay the debt of nature at this season.—*Lancet*.

Ancient Ruins.

A gentleman who has traversed a large portion of the Indian country lying between Santa Fe and the Pacific, informs the editor of the Houston [Texas] Telegraph, that there are vestiges of ancient cities and ruined temples on the Rio Puerco and Colorado of the West. On one of the branches of the Rio Puerco, a few days travel from Sante Fe, there is an immense pile of ruins that appear to belong to an ancient temple. The building occupies nearly an acre of gronnd—portions of the old wall are still standing, consisting of large blocks of lime-stone regularly hewn and lain in cement. The ruins bear resemblance to those of Palenque or Otolun. There are many similar ruins on the Colorado of the West which empties into the Californian sea. Neither the Indians resident in the vicinity, nor the oldest Spanish settlers of the nearest settlements, can give any account of the origin of these buildings.

An antiquarian at my elbow, with no small pretensions, suggests the great probabilites of the antidiluvian origin of these remains of ancient cities, which with the extinct mammoth races of animals of the same period have been buried, one after another in one common ruin.

Amputations in Paris.

Medical statistics receive much attention on the continent. In the hospital of Paris, from 1833 to 1840 inclusive, 852 amputations were reported to have been performed, the general results of most of which were as follow:—of 201 cases of amputation of the thigh 126, or 62 per cent., were followed by death; of 192 amputations of the leg, death ensued in 106 cases, or 55 in 100; in 38 do. of the foot, the subsequent mortality was only 9 cases, or 24 in 100; in 91 of the arm there were 41 deaths, or 45 in 100; in 28 of the fore-arm 8 deaths, or 21 in 100; The mortality after amputations of the toes or fingers was comparatively inconsiderable; 564 of these operations took place on male subjects, of whom 267 died; 165 were on females, 56 of whom succumbed. The autumn appears to have been the season most unfavorable to happy terminations of these cases, and next to it the spring; the summer and winter are the most favorable seasons; the latter premeinently so. Such researches have great practical utility; but in none of our own hospitals are similar attempts at generalising results pursued by the medical establishment.—*Lancet.*

Formula for Rheumatism.

M. Pereyra, of Bordeaux, who has adopted the use of guaiacum for rheumatic affections in preference to any other vaunted remedy, employs the following formula:—Finely powdered resin of guaiacum, a drachm; orange leaves, powdered, half a drachm; acetate of morphine, three-quarters of a grain. These ingredients, are mixed, and divided into sixteen powders, one of which is to be taken every two hours. The acetate of morphia is useful both for enabling the stomach to tolerate the guaiacum and in moderating the stimulant effects of this substance which so often compels its disuse —LANCET.

Digestion of Alimentary Substances.

An account of experiments, in order to ascertain the elements necessary for digestion in the stomach.—Messrs. Sandras and Bouchardat, the authors of this paper, state that the digestion and absorption of albuminous and feculus substances are performed exclusively by the stomach:—whereas, greasy substances are not there acted upon, but pass into the duodenum in the state of emulsion, by means of alkalies, which are given out by the liver and pancreas. This emulsion is to be found in abundance in the whole of the intestine. The chyle appears to be the same whether the food be albuminous or feculous; but there is a sensible difference where greasy food is taken.—PARIS ACADEMY OF SCIENCES.

Prevention of Sore Nipples.

To the Editor.—Sir: I think that sore nipples would seldom occur did mothers pursue this plan which I always advise to my female friends on occasions of suckling, namely, after the child has left the breast, to wipe the nipple very dry, and apply to it a piece of linen cloth. I have had much practice among the ladies for the last twelve years, and never had a case of sore nipple where this plan was adopted. Although it may appear to be a trifling communication, yet trifles are not to be despised, especially in the obstretric department of medicine; they lead to more practical advantage than a great deal of the theoretical nonsense of the present age.

Your obedient Servant,
T. C. WOOD, M. R. C. S., L. A. C.
Surgeon to the Reading Dispensary,
London-street, Reading, LANCET.
Nov. 1842.

Rhus Toxicodendron.

Van Heddeghem mentions the case of a Creole in Louisiana, who was so susceptible to the action of Rhus Toxicodendron that he could not drive along the roads where the rhus plant grew, or shake hands with a person who had been exposed to the effluvium of the plant, without being almost immediately attacked with the *rhus erysipelas,* which affected his face, neck, hands, arms, chest, and genitals, in particular. He had used very many remedies in vain, in order to deaden his susceptibility, when, finally his physician, Bressa, determined to give him the rhus grandiflora which produces effects very similar to those of the rhus toxicodendron. At first it caused an erysipelatous affection of the eyelids and nose; in course of time, however, it no longer produced any perceptible effect, and he was enabled not only to expose himself to the effluvium of the rhus tree, but could even handle it without suffering the slightest inconvenience.—*Precis analytique des travaux de la Societe Med. de Digon pour l'annee*, 1832. *Dijon*, 1838, p. 48.

Rau (*Nouvel Organe*, p. 55) relates a case also illustrating the action of rhus. A laborer, in the botanical garden at Giessen, a few hours after being employed in expressing the sap from the leaves of the rhus radicans was attacked with violent vesicular erysipelas of the face and hands attended with a high state of fever.—British Jour. of Hom.

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Arsenic in the Chronic Pleurisy of Sheep.

M. de Gasparin communicated to the Academy of Science (January 2, 1843) the results obtained by M. Cambessedes with arsenious acid in sheep affected with chronic pleurisy. A hundred and twenty of these animals each swallowed thirty-two scruples of this poisonous preparation, mixed with common salt; with the exception of one, all entirely recovered; whilst before the administration of this remedy, the flock was actually decimated by the disease. M. Cambessedes was induced to try it from its being vaunted as a specific by the country people. He considered that it is not a poison to the sheep; but the experiments performed previously by a commission, prove this opinion to be erroneous, and also shew that arsenic is homœopathic to pleurisy in the sheep. In an experiment by MM. Flander and Danger, six grains (trois decigrammes) of arsenious acid were introdued under the skin of the sheep, symptoms very soon manifested themselves, and in five days the animal died. The autopsy shewed pleuropneumony with effusion on the right side. The production of serious effusion into the pleura of animals poisoned by arsenic, has also been observed by M. Chatin. It is difficult to account for the seemingly innocuous effects of the large dose administered by M. Cambessedes.—*Annales d'Hygiene Publique, etc. April*, 1843, p. 469.

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Dr. Gaspari of Berlin, upon the employment of Carbo Animalis in Buboes.

The rapid resolution of Buboes in three instances in which Dr. Gaspari gave Carbo an., not as homœopathic to the buboes, but to the other attendant symptoms, led him to try it in several cases, and with great success. In the Mat. Med. of Hahnemann, buboes are not given as one of the pathogenetic effects of Carbo an.; its therapeutic use can therefore be only established as yet *ex usu in morbis.* The buboes he treated were principally venereal, and though the medicine seemed specific to the bubo it appeared to exercise no effect upon the primary venereal affections; so that after the resolution of the bubo, other remedies had to be given. The treatment lasted three, five, or at the most, eight days. In numerous cases where the bubo appeared as if about to suppurate, still resolution was affected.—*Annales de la Med. Hom.* tome i, p. 11.

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Poisoning by Stramonium (Datura.)

A girl four years old ate a few seed of this plant. Towards evening tennitus aurium and sleeplessness occurred; the child sang and wept, and spoke uninterruptedly confused nonsense. The eye was lively, the pupil dilated and insensitive to the light; she snatched continually in the air as if to seize something; to stand was impossible, for on rising the knees knocked together, and the child on attempting to exert herself, she staggered and fell like one drunk. Vomiting was induced, and she got rid of the poison and recovered. —(Caspen's Wochenscrift 1842, No 25; also Osten. Med. Wochenscrift bim. No. 32, August 6, 1842.)

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Effects of an over dose of Cina; observed by Dr. A. Noack of Leipsic.

Theodore Georgi, aged 2 1-2, of a scrofulous constitution, had been early very delicate, but latterly in good health till three months before; since when, he was subject to diarrhœa, and only lately freed from it. He received from his mother, for ascarides, a heaped tea-spoonful of powdered cinna-seed, with *syrupus communis*, on the 23d November, 1841, abont 11 o'clock in the morning. About ten minutes afterwards, violent repeated vomiting of yellow water came on together with watery diarrhœa and general convulsions. After this state had lasted about half an hour, I was called in, and found the child in the lap of its mother, still in convulsions, which, according to the mother's account, had not decreased in violence. They consisted in distortions of the limbs in all directions, from which the fingers and toes alone remained free; head and body were drawn backwards, forwards, sidewards, by turns, whilst the boy beat about with his arms and legs. There were, besides, from time to time, violent shocks through the whole body, with stamping of the feet downwards, and pushing with the head upwards and backwards; the shocks were particularly violent in the lower part of the breast, and felt on laying on the hand on the epigastrium. The face, which I was told had been pale at first, and had become by degrees gradually more livid, was now quite blue, the eye-balls were soon after turned upwards convulsively, so that only the white was visible; soon they became fixed straight forward, the pupils considerably dilated, and insensible to light. The tongue was sometimes drawn together in the form of a cylinder, and spasmodically passed through betwixt the lips without efforts of vomiting having taken place. Breathing natural, temperature of the skin low, skin dry, pulse small, contracted, neither frequent nor quick, regular. (Tinct. Ipecac. 1, every quarter of an hour 1 gt. to be taken on sugar.) The child afterwards vomited light yellow water twice, but not again; the cramps abated, passed by degrees into slight twitchings,and after the lapse of half an hour the fits ended with a peaceful sleep, which lasted an hour, with the return of *turgor* of the skin, a breaking out of general perspiration, and rising of the pulse. The little patient awoke lively and well-pleased, and continued so during the following days.—From Hygea, vol. xvi. p. 81.

Cicuta.

A widow, 50 years old, of a slender frame, who had never regularly menstruated, and had suffered much from urinary affections, attended with pain in the renal region, to relieve which numerous warm baths were employed, was attacked, in September 1838, with frequent vomiting in the course of the day, by which all she eat, and latterly a frothy white fluid, was ejected. When the narrator of the case visited the patient, her countenance was of an earthy hue, the skin was dry, there was great weakness, depression of spirits, little sleep; the pulse was small, but not frequent, the tongue dry. Urgent thirst, the abdomen normal to the touch. Only on the right epigastric region, under the false ribs, there was a painful induration about the size of an orange. This induration seemed to arise from an inflammatory abscess of the liver, the vomiting from excessive irritability of the stomach, or disease of the pylorus. As the vomiting had not continued long, the narrator diagnosced chronic gastritis complicated with hepatitis. From this view of the case he ordered copious leeching, embrocations, with belladonna, and enemata, and purgatives. As this treatment was of no use, after having been pursued for three or four days, pill of saffron, and then opium pills were given—these diminished the pain and procured sleep, but the vomiting and the other symptoms continued. Other two experienced physicians were called in, who gave it, as their opinion, that there was likewise induration of the pylorus present, and ordered opium and blisters on the epigastrium. Neither was this treatment of any use. The patient visibly declined. From the recommendation of Stoerk, pills made of the extract of *cicuta*, and a large blister and an opiate enema were used. By this means the threatening danger was removed, and a steady, though slow convalescence ensued. Cicuta was given, first half a grain daily, then half a grain three times a day. [The reporter of the case, in Oppenheim's Journal, observes, naively enough, it is evident that this wonderful cure was effected by the morphia and blisters, for the dose of cicuta was too small to have done it. Be it observed, that opium and blisters had been diligently employed before *with no benefit, the patient daily getting worse.* Did they acquire a new power when "too small" doses were administered?]—Journal de Sociedade das Sciencias de Lisboa. Tom. ix. 1° Semestre de 1839. Extracted in the Zeitschrift fur die Gesammte Medicin. Von F. W. Oppenheim. No. 11. November, 1842.

The Muriate of Tin in Chorea—By Dr. Person.

A girl 11 years old, after a dreadful fright, became affected with headache, and occasional twitches of the angle of the mouth and extremities of the right side of the body, which gradually increased in frequency, until at length they became constant during her waking hours. As the examination of the spine shewed that there was considerable tenderness between the 2d and 6th cervical vertebræ, twelve leeches were applied, and ungt. merc. rubbed in near the sensitive part, and calomel and zinc powers prescribed. On the 12th, salivation occurred, and the calomel was supplanted by hyosciamus. Leeches were again applied, and afterwards a blister. Notwithstanding these active measures the disease got worse, and the blister seemed to aggravate the excitement. Upon this, Dr. Person determined to try the *murias stanni*, as recommended by Dr. Schlesinger (Hufel. Journ. 1837,) and began with the one-sixteenth of a grain as a dose, morning and evening, gradually increasing the amount until he gave one-fourth of a grain twice a day. After the very first small dose, improvement appeared, which almost hourly advanced. By the tenth day, after the patient had taken altogether five grains of the muriate of tin, all the convulsive symptoms were gone, and she was perfectly recovered. This medicine effected the cure without producing any re-action,—it occasioned neither primary aggravation (according to Fischer,) nor dryness of the mouth (according to Schlesinger,) but seemed to operate as a pure sedative, quieting the powerful excitement of the nervous system, to which, perhaps, the previous antiphlogistic treatment might have contributed.–OESTER. MED. WOCHENSCHRIFT, No. viii., 1843, p. 216.

[Had Dr. Person consulted Hahnemann's Materia Medica, he might perhaps have been induced to try the muriate of tin at first, instead of at last; and thus the patient might have been saved the blood letting and the blistering. He would also have found the occasional aggravations, and the other symptoms of the action of the medicine that have been observed, explained.—EDITORS.]—BRITISH JOURNAL OF HOMŒOPATHY.

Chronic Bronchitis.

Cough and expectoration, but no pain produced by pressure on the intervertebral spaces between the last cervical (7th) and first dorsal vetebræ.

℞. Hard Bal. Copa, and Cubebs ʒiiiss, Ext. Hyos. ʒss. Make 100 pills. Dose 1 pill 3 times a day—after eating.—*Specific.*

COUGH.—*Troublesome at night.* ℞. Solu. Morphine ʒj. Syr. Bal. Tolu. 2 oz. Mix. Dose a tea-spoon, at night on going to bed.

HAWKING—*with expectoration.* Tubercular disease of the throat.

HOOPING COUGH.—℞. Cochineal pulv. 10 grs. Cream Tartar 30 grs. Sugar 1 oz. Hot water, half a pint. Mix. Dose—a tea-spoon 3 times a day—*Specific.*

Purpura Hemorrhagica.

℞. Creosote half a minim (drops), alcohol a sufficient quantity to suspend it in an ounce and a half of mucilage, to be taken every six hours.

In cases where the gums are bleeding, the following may be used frequently as a gargle. ℞. Creosote, half a drachm; alcohol, a sufficient quantity to unite it with twelve ounces of water.

Increase of Knowledge.

A Professor of one of the Medical Colleges in this city, in his introductory lecture to the students of medicine, has announced the brilliant discovery of the important fact, that the uniform curative effects of a remedy in any disease, was no evidence of its applicability to the case; from which it would seem to follow by a strict parity of reasoning, that the fatal effects of a prescription are no proof either of its perniciousness or of the ignorance of the physician!—a conclusion, which if not very gratifying to the friends of the patient, cannot fail of being extremely consolatory to the practitioner.

The Magnetic Poles and the Moon.

In 18½ years the magnetic poles of the earth and line of no variation advance from east to west 10°, in which time the moon's *nodes* perform an entire revolution in their *retrogade* motion from east to west. In 3 times 18½ or 55½ years, these poles and line of no-variation advance 30° in which time the nodes perform 3 revolutions. In 3 times 55½ or 166½ years, these poles and line of no-variation advance 90°, in which time the nodes perform 9 revolutions. In 4 times 166½ or 666 years, these poles and line of no-variation perform an entire revolution of 360°, in which time also the nodes perform 36 revolutions. These numbers are all perfectly exact, as expressions of mean or true time and motion, and are applicable to the magnetic clock-work of the whole solar system, which shows that the retrogade motion of the moon's nodes is the consequence of the motion of our magnetic poles, at the same time that these poles are moved around the earth by the magnetic forces from the sun. It will be recollected by some of the readers of this Journal that in our Astro-Magnetic Almanac, for 1843, we demonstrated the annual rate of motion, and time of revolution of these poles and line of no-variation; a work which should have been continued for the present year, but which has been superseded by the claims of this Journal upon our time.

☞ City Hall, New York Jan. 1, 1844. Lon. 74° 01′ 08″ W.—Lat. 40° 42′ 40″.—Variation, 6°33′ 11″ W.

THE DISSECTOR.

Vol. I.] NEW-YORK, APRIL, 1844. [No. II.

ARTICLE I.

Magnetic Organisation of the Human System.

It has been truly said, that "life itself, is only known to us empirically. We acquire a knowledge of disease in the same way; and the same method is adopted in the cure;" and it may be doubted whether we shall advance much in a scientific knowledge of diseases, or of the remedies for them, until we first obtain a scientific knowledge of the organisation which constitutes animal life. We have a very accurate knowledge of the anatomical or animal organisation, but none whatever of the invisible motive powers which constitute animal life. Few, very few physicians ever had any conceptions of even the existence of such an organisation —yet there cannot be motive power without such organisation. We can see the ropes, the levers and the pulleys, by which motion is produced, but nothing of the spiritual, sympathetic and invisible forms that use them for the purposes of motion—yet it is on these forms in the different organs and other structures which the immaterial or spiritual powers of medicines act, and it was the obvious importance of a knowledge of these forms that induced us many years since, to commence an investigation of this subject which has at last resulted in a developement of their organisation.

We commenced with the brain, and traced by the direction of its fibres, an organisation representing five magnetic poles; two in the argans of causality, two in the organs of amativeness, and a very large one in the centre of the brain, requiring at least two magnetic axes, which must cross each other in the centre of that organ.

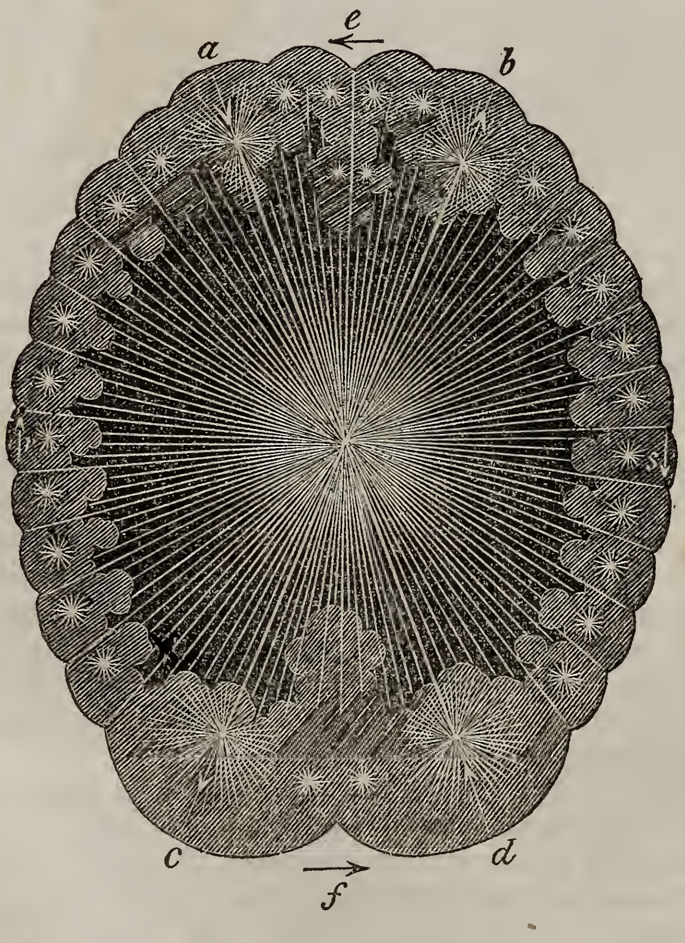
Some of these fibres were seen to be connected with the white and others with the grey substance, divided by a thin neurilema or membrane. Those in the white substance (fig. 1) were also seen to diverge from the centre, or great inferior ganglions (d d) to the neurilema connected with the grey substance, in the circumference of the brain, while those in the grey substance diverged from the circumference to the centre through the corpus collosum and great superior ganglions (p p). The diverging fibres were, therefore, found to connect the white, and the converging fibres the gray substance, which was seen to be a mechanical arrangement of the different fibres, with the different kinds of matter of the brain; for different kinds of matter maintain opposite forces, which are necessary to the production of motion. Having apparently traced the poles of those forces, we resolved to test their identity, and for this purpose it was necessary to know whether the magnetic forces would of themselves without artificial aid, take these forms under favorable circumstances; and for this purpose a circular plate of steel, eight inches in diameter, with a round hole in the middle of one inch, corresponding with a middle section of the brain, was placed on a pole of a large Galvanic Battery, covered with white paper, and iron filings strewed over it, when they were immediately arranged by the forces in the plate, in the manner seen in figure 2.

On applying the dipping needle to these poles, that in the centre and those in the circumference at *c c*, were found to be positive, and those at *d d*, negative poles. When, however the order of magnetising on the different poles of the battery was reversed, the character of the pole in the centre was changed from a positive to a negative pole, and the positions of the positive and negative poles in the circumference were also changed; the positive occupying the positions of the negative, and the negative those of the positive poles.

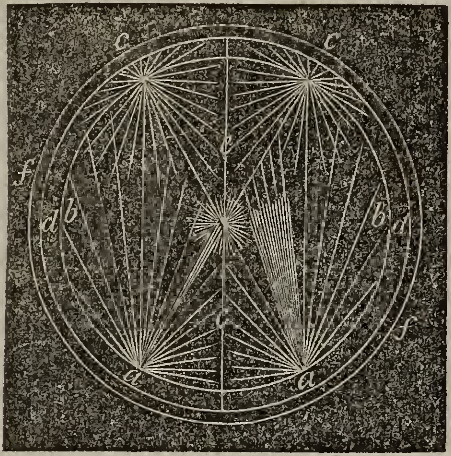
The magnetic axes of the positive and that of the negative satellites cross each other in the centre of the open space in the inside of the disc, each forming two sides of an inverted plane triangle, the base of each of which, from the form of the disc, necessarily forming a spherical side of a triangle, and as the latter is in the circle of the disc, and as this disc is a middle section of a hollow sphere, it necessarily follows that when a hollow sphere or body, more or less round, is magnetised in the same manner, inverted cones are formed. For as the disc is a section of a sphere, so are the plane and spherical sides of the triangles, sections of inverted cones.

This experiment was repeated eleven times on plates of from four to fifteen inches in diameter, and always with the same result. It may therefore be inferred to be constant. It presents one large and strong pole in the centre of the plate, and four smaller and weaker poles in the circumference, like those in the brain.

There is here disclosed the existence of five poles united with two magnetic axes: one in the centre of the space in the centre, and four in the circumference of the plate, corresponding in the most exact manner with those we had traced in the brain by the direction of its fibres, as seen in figure 3, representing a horizontal section of the brain, through the organs of causality, *a b*, and amativeness, *c d*, in which the relative characters of the poles are reversed.



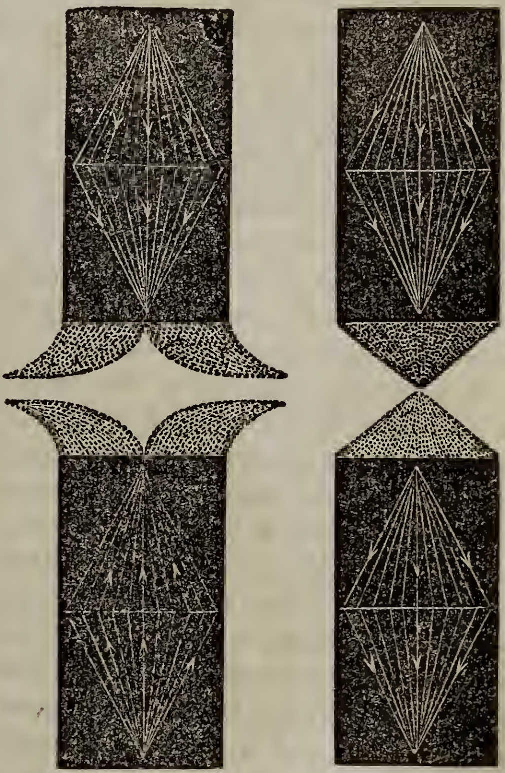
When the heart is laid open and distended in a circular manner (*d d*, walls of the heart; *e e*, septum or division between the auricles and ventricles; *f f*, pericardium) as seen in figure 4, it is found by the manner in which it is constructed to have four large poles in its circumference; *a a*, and *c c*, the axes of which cross each other in the centre pole of the heart, like those of the circumference of the brain. The forces from the poles, *a a*, radiate along the ligaments or braces, called *calumnæ cornea*, to the sides of the ventricles; *b b*, and the forces also radiate from the poles in the oracles *c c*, along their ligaments, as seen in the figure: all of which are first expanded and then contracted in the motions of the heart, by the action of the forces from the poles.



The number and situation of these poles are from this view of the construction of the heart so self-evident as to preclude the necessity of a solitary remark, but it may be asked if the motions of the heart are produced by the action of these poles upon its muscles, from whence are the forces derived which sustain these poles*?

The answer is, from the serious and mucous surfaces of the body, which are maintained in negative and positive states, for such purposes—the serous including the skin supplying the positive and the mucous including the alimentary canal, the negative force, which are conducted to the poles in the organs through the nerves in these surfaces—the negative poles attracting the positive, and the positive poles the negative force.

It is a matter of common observation that magnetic poles of the same denomination repel, and those of opposite denominations attract each other, and in order to ascertain the degree of force with which they repel and attract, it is found by experiments, conducted on the most rigid principles of inductive philosophy, that they repel and attract each other with a force proportioned to the quantity of these forces in given spaces, or the spaces they occupy. It is also ascertained, in the same manner, that when they repel, they expand, as seen in the case of iron filings attached to poles of the same denomination.



And when they attract, they contract, as seen in the case of iron filings attached to poles of opposite denominations, with a force proportioned to their quantities in the spaces they occupy. The two poles, then, of the same denomination in the opposite hemispheres of the brain may, through the spinal nerves attached to these hemispheres, expand one set of muscles on one side of the body, limb, or organ, at the same time that those of the opposite denomination, contract the antagonist muscles on the other; for the muscles, like the organs and nerves are necessarily double for the purpose of producing motion by their simultaneous action.

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* Magnetic poles cannot be long maintained, any where, without a constant supply of these forces from some source.

They may also expand one set of muscles by the repulsive, and contract their antagonists by the attractive force; in the same way that one metallic wire is expanded with the repulsive, and another contracted with the attractive force. Thus when by the mere exercise of an inclination, excited by a sensation, we incline to expand one set of muscles to extend a limb, we incline to contract their fellows at the same time; so that when one muscle expands, its fellow necessarily contracts; and when another contracts its fellow expands.

These motions called attracting and repelling are, in other words, the pushing and pulling motions: and if motion is produced in man and other animals by the action of these forces, we ought to be able to recognise the same motions in the fluids of the body, whether æriform or aqueous, and also in the organs by which they are moved.

On a minute examination of this subject, we find that in the formation of the organs, the same order is observed in the distribution of the membranous surfaces as in the formation of the external and internal surfaces of the body. The brain, heart, lungs, stomach, intestines, liver, spleen, kidneys, uterus, and cystis are all covered with a serous membrane, and their inner surfaces are lined with a mucous membrane. On observing the action of the air and of the lungs in breathing, we instantly recognise those motions

In reflecting on the great power which it was necessary to give to the heart, it was easy to see that the diagram or plan for its construction must conform to that necessity This consideration, however, presented no difficulties, for the sources from which it might derive the necessary strength and durability, under the action of these forces, were abundant and we accordingly find it strong muscles supported by braces and surrounded by additional membranes, presenting extensive surfaces for the accumulation of these forces.

On an attentive examination of the action of this organ, and of the motion of the blood in the arteries, we again recognise in both, and in the clearest manner these motions.

The heart is constructed and acts on the principle of the pump; the fluids being attracted through the veins and other absorbent vessels in steady streams to the heart, with an intensity of force equal to that with which the ventricles repel them through the arteries.

Every repulsion of a fluid, in elastic bodies, produces expansions, and every attraction is succeeded by contractions of these bodies, according to a law of these forces, viz: repulsions expand, and attractions contract with powers proportioned to their quantities in given spaces.

Every repulsion of the heart, repels or pushes the fluids in the arteries, and every attraction pulls the fluids in the absorbent vessels.

The motions of the pulse correspond exactly with these laws and these motions; for every repulsion is succeeded by an expansion in the artery, and every attraction by a contraction of it. The same phenomena is found in the hose of the fire engine when in motion. The water moves in the hose from the cistern or hydrant in a steady stream to the engine, and from the engine through the hose with the motions of the pulse.

Sensations and inclinations, like repulsions and expansions, and attractions and contractions, are attributes of these forces. The inclinations belong to the sensations, whether repulsive or attractive, as the expansions do to the repulsions, and the contractions to the attractions, and follow them in the same order.

These spiritual, or male and female forces, are innate in every kind of matter, without possessing any character in common with it, whether ponderable or imponderable; and in their organised or magnetised state, were the foundations on which matter was laid, in the formation of the solar system, and of the mineral, vegetable, and animal kingdoms. Repulsions, expansions, attractions, contractions, sensations, inclinations, *sympathetic* action, motion, and form, are then, in this order the attributes of these forces, by which that system and these kingdoms were formed with a precision, and adorned with a beauty that defy imitation.

Nothing can therefore equal the adaptation of these forces to produce such results; for besides their unlimited power, which can make a world tremble like a leaf, the great velocity of their motions and their great and almost inconceivable tenuity, enable them to penetrate the most minute orifices, and construct an infinite variety of bodies of every form and size, and produce motion in the smallest with the same geometrical accuracy as in the largest structures.

These views of the dynamics, or moving powers in animate and inanimate matter may at first appear very strange and unaccountable to even men of science who have little or no knowledge of this subject, and I may therefore direct their attention to another example of the repelling and expanding and attracting and contracting powers of these forces, in illustration of these views, and which may be seen and tested in the most satisfactory manner in the recently discovered process of gilding metals by the action of these forces in solutions of gold.

I may also direct the attention of physicians and surgeons to the experiments of Doctors Laroche and Crusell of St. Petersburgh, given in our last number, in which cataracts were formed in the eye with the attractive and contractive force, and were afterwards dispelled, in two minutes, with the repulsive and expansive force, and which cannot fail to suggest to them not only the great importance of a knowledge of the magnetic organization of the human system, but that of the magnetic character of their remedies for diseases.

The Vagus Nerve the Motor of the Stomach.—Longet experimented on dogs. He irritated the vagus nerve by galvanism, or mechanically, and found that contractions of the stomach followed, which constricted itself into two portions, a cardiac and pyloric, and aliment was forced through the pylorus. The organ was most susceptible of such stimulus and movement during digestion. Irritants applied to the *semilunar ganglion* or splanchnic nerves produced little, if any, movement of the muscular fibres of the stomach.—*Annales Med. Psych.*

Seat of Tubercles in Phthisis.—In M. Louis' experience, out of 80 cases of pulmonary tubercle, the cervical glands also were found the seat of tuberculous matter in 8 instances; out of 102 cases, the mesenteric glands were tuberculous in 23 instances; the meso-cæcal and meso-colic glands were similarly affected a little less frequently than the mesenteric; and out of 60 cases, the lumbar glands were found tuberculous in 5 instances. Attention is naturally excited to the eminent frequency of tubercle in the lacteal glands, and some authors have asserted that they are the original seat of tubercles in consumption. M. Louis states, however, that all his experience has gone to confirm that after the age of fifteen, tuberculous matter never presents itself in any tissue or organ unless it exist also in the lungs.—

A LECTURE

On the Nagnetism of the Human Body,

Delivered before the Apprentices' Library Society of Charleston, by Robert W. Gibbes, M. D. of Columbia, S. C., 1843.

> "The facts of nature, not the theories of man, are the only infallible tests of the verity of alleged discoveries."—*Bacon.*

> "The power and corrigible authority of this, lies in our wills."—*Shakspeare.*

Sir David Brewster has said truly, "Man has, in all ages, sought for a sign from heaven, and yet he has been habitually blind to the million of wonders with which he is surrounded. Modern science may be regarded as one vast miracle, whether we view it in its relation to the Almighty Being by whom its objects and its laws were formed, or to the feeble intellect of man, by which its depths have been sounded, and its mysteries explored; and if the philosopher who is familiarized with its wonders, and who has studied them as necessary results of general laws, never ceases to admire and adore their author, how great should be their effect upon less gifted minds, who must ever view them in the light of inexplicable prodigies." And what is there more deserving of our attention than the beautiful and wonderful structure and relations of the human body? "Know thyself" was a maxim of antiquity in relation to moral man. As truly may we call for its application to his physical attributes, and say with the poet,

> "The proper study of mankind is man."

Having lately directed my attention to the investigation of the curious phenomena of Mesmerism or Animal Magnetism, by which powerful physical influence is exerted by one man over another, producing extraordinary effects, both on his mind and body, I became particularly interested in experiments with the magnet.

It had been stated, that during the peculiar cataleptic condition induced by this remarkable influence, the head and hands of the subject were attracted by the magnet—and that the brain possesses *polarity*, one side of the head being attracted by one pole of the magnet, while the other was repelled; and that opposite results were apparent from the application of the other pole. I made the experiment, and found that if the N. pole of a strong magnet be placed near the upper part of the forehead, on the right side, it produces, in a few minutes, a sensation of "pushing" the head from it, and in some cases, a strong repulsion; if placed on the opposite side of the head, it produces a feeling of "pulling" the head towards it. The opposite effects are produced by the S. pole. This experiment I have repeated on seven or eight susceptible subjects with similar results. On two young ladies, who are very sensitive of mesmeric influence, I find these results appreciated by them in their waking state—and the experiments having been repeated under circumstances when there could be no suspicion of deception, I became entirely convinced of the fact, *that the human body is magnetic, and possesses polarity.*

Dr. Sherwood, of New York, in a pamphlet on "the motive power of the human system," has given experiments of an ingenious character, which tend to shew that the brain has polarity, reasoning by analogy from magnetic experiments, and comparing them with the knowledge derived from the action of the magnet on mesmerised subjects. The Rev. Mr. Sunderland, of New York, is satisfied of the fact, and reasons upon it, in his publication "The Magnet," to the construction of various theories, in relation to the "*magnetic nature*" of man.

The phenomena of mesmerism, however, being still denied by those who have not had proper opportunities of personal experience of its truth, no influences observed in that state can be considered strictly as settled, which are not supported by direct experiment on the body in its ordinary condition. I will, therefore, for the present, refer to no farther effects on mesmerized subjects, until I give you the opinions of others in support of my proposition.

The influence of the magnet on the body, has been recorded in the works of many medical men of established character, but scientific men have denied it, because the reciprocal influence of the body on the magnet, has never been shewn. This is the *experimentum crusis* which has been called for to settle the question, but has never been exhibited. Prof. Henry, of Princeton, N. J., who has rendered himself eminent by his discoveries in magnetic philosophy, in a lately published letter says, "Of the electro-magnetism of the human body I know nothing, and I can say, with certainty, that no branch of science bearing this name, has an existence in the circle of the positive sciences of the present day. Nothing like *polarity*, has, as yet, been shewn to exist in connection with the brain.*

I have discovered a mode of shewing *upon the needle directly* the magnetic polarity of the human body—and I anticipate that the study of the magnetic properties of the nervous system will furnish us with a key to unlock the mysteries of Animal Magnetism.

The limits of a single lecture will not allow me to go into a full consideration of the arguments which have been brought forward, founded upon experiment, to prove the identity of Electricity, Galvanism and Magnetism, but such a belief is very general among scientific men of the present day. Nor can I enter very fully into the enquiry as to the identity of the nervous fluid with this power or these powers. Dr. Faraday, who is high authority, says of the former:

"After an examination of the experiments of Walsh, Ingenhous, Cavendish, Sir H. Davy, and Dr. Davy, no doubt remains on my mind as to the identity of the electricity of the torpedo, (*animal electricity*,) with common and voltaic electricity." Yet he candidly goes on:

"Notwithstanding the general impression of the identity of electricities, it is evident that the proofs have not been sufficiently clear and distinct to obtain the assent of all those who are competent to consider the subject."

Whether this be so or not, is not of much importance to my proposition, as I think it will be apparent that, whether there be one or several agents involved in electric, galvanic and magnetic effects, the human body exhibits the results of the several modes of procuring these influences. I am not satisfied, myself, of there being different states of intensity of one fluid, but my opinion should have no weight against the mass of authority on the other side. With regard to the identity of the nervous fluid, or power, with galvanism, electricity and magnetism, in the present state of our knowledge, we have not enough facts to settle that question; still there is much to induce a belief of it.

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* Magnet. p. 39. vol. 1. July, 1842.

That the animal body is *electric*, is probably within the knowledge of all who hear me. The phenomena of sparks being seen to follow the removal of flannel or silk from the person in dry weather, and the stroking of the back of a cat, dog or rabbit, are common. Some individuals appear to have less conducting power than others, although their bodies are generally good conductors. In proportion as they are so, they shew the presence of electricity in a stronger degree. Perhaps deficient perspiratory function may be the cause of the accumulation of it.

A correspondent of Silliman's Journal states that, "On the evening of January 25th, 1837, during a somewhat extraordinary display of the northern lights, a respectable lady became so highly charged with electricity, as to give out vivid electrical sparks from the end of each finger to the face of each of the company present. This did not cease with the heavenly phenomenon, but continued several months, during which time she was constantly charged and giving off electrical sparks to every conductor she approached. This was extremely vexatious, as she could not touch the stove, or any metallic utensil, without first giving off an electrical spark, with the consequent twinge. The state most favorable to this phenomenon, was an atmosphere of about 80° F, moderate exercise and social enjoyment. It disappeared in an atmosphere approaching zero, and under the debilitating effects of fear. When seated by the stove, reading, with her feet upon the fender, she gave sparks, at the rate of three or four a minute; and under the most favorable circumstances, a spark that could be seen, heard or felt, passed every second. She could charge others in the same way when insulated, who could then give sparks to others. To make it satisfactory that her dress did not produce it, it was changed to cotton and woollen, without altering the phenomenon." Similar cases are occasionally reported to our medical journals—and I was consulted, professionally, by a gentleman, as to the reason why his wife should attract a great many fire-flies around her when in the dark, and no others of his family be similarly troubled. She was much annoyed at times, by observing so many sparks about her, and was afraid, for some time, to mention it, as she thought she would be ridiculed.

"Saussure and his companions, while ascending the Alps, were caught in the midst of thunder clouds, and were astonished to find their bodies filled with electricity, and every part of them so saturated that sparks were emitted with a crackling noise, accompanied by the same painful sensations which are felt by those who are electrified by art."

Larrey, in his memoirs of the Russian Campaign, mentions his having seen similar effects. On one occasion, he says, when the cold was excessive, the manes of the horses were found electrified, in a manner similar to that mentioned by Saussure. Rousseau has described eloquently the extraordinary elasticity of spirits which he experienced in ascending some of the higher regions of the Alps. Dr. Madden asks:

"Who has ever experienced the effects of the sirocco of the South of Europe, the poisonous Kamsin of the East, or even the summer S. E. wind of our own climate, (England,) without feelings of indescribable lassitude, not to be accounted for by any alteration of temperature, but obviously owing to the electrical changes superinduced? During the prevalence of these winds, the atmosphere is almost altogether deprived of electricity, and the nervous system simultaneously is deprived of its vigor. In damp weather, likewise, when electricity is absorbed rapidly by the surrounding moisture, every invalid is aware how unaccountably dejected his spirits become, and how feebly the various functions of the body are performed, especially those of the digestive organs. This state of morbid irritability in the whole frame, continues till the north or west wind "awakes," as Brydone has well expressed it, "the activity of the animating power of electricity, which soon restores energy, and enlivens all nature."

In 1835 I was called to see a young lady who had been struck by lightning. She had been sitting near a window, stringing beads. A storm arose, with thunder and lightning—suddenly she saw a blaze of light in her lap, felt hot and became insensible—she fell, and was caught by her mother, who was near—cold water was thrown over her, and she was put to bed—had spasms in the arms and legs. She recovered her consciousness in about ten minutes. When I saw her, a half hour after the occurrence, she complained of great intolerance of light—could not bear to unclose the eye-lids, although the room had very little light in it—complained of stricture across her chest—numbness in the head, neck, and sides of the face. She had, occasionally, for two days, spasms; but on the third was relieved, and felt better. Although the room was closed from light, *whenever rain clouds passed* near the house, she felt very much oppressed, and when another storm arose, she again had violent spasms, which lasted two hours. On the fifth day she seemed as well as usual, and had no return of the nervous irritability.

"In the south of France, there are whole vineyards in which numerous electrical conductors are attached to the plants, for the purpose of increasing the progress of vegetation, and of invigorating the vines. In the same manner does electricity act upon the animal body, quickening the circulation by its stimulus," &c.

We all know the sensible influences of change of weather on rheumatic and paralytic patients, and old persons, with most chronic diseases.

Sir Humphry Davy speaks thus:

"*Electricity* seems to be an inlet into the internal structure of bodies, on which all their sensible properties depend; by pursuing, therefore, this new light, the bounds of natural science may possibly be extended beyond what we can now form any idea of; new worlds may be opened to our view, and the glory of the great Newton himself, may be eclipsed by a new set of philosophers, in quite a new field of speculation." Dr. Paris, in his biography of Sir H. Davy, mentions that "Sir H. supposed the heat of the animal frame to be engendered by electricity; taking it furthermore to be *identical* with the *nervous fluid—sensation being*, in his view, motions of the nervous ether exciting medullary substance of the nerves and brain."

The experiments of Prevost and Dumas induced the expression of the opinion, that "muscular contractions result from the action of a nervous fluid, which, if it be not the electric fluid, possesses at least the same properties; and the analogy which exists between the phenomena of secretion and those produced by the action of an electric pile, is, they say, very remarkable; for when an electric current traverses a liquid containing salts and albumen, serum for example, an acid will be produced at one end of the pile, and an alkali at the other, and the animal substances the liquid contains, change their natures. Now this is precisely what takes place in the organs of secretion; though secreted entirely by the blood, the liquids these organs contain, differ from it in their chemical qualities. The physiologist Milne Edwards says:

"The recent experiments of M. Becquerel on the influence of electricity upon the vegetation of plants, support the opinion at present entertained by many physiologists, that the nutritive as well as the muscular movements of the living body, are carried on by a nervous influence analogous, and perhaps identical with the physical force that produces the electro-chemical phenomena."

Professor Miller of Baltimore, from experiments, has found that a stream of electricity passed through dark venous blood, will change it at once to a rich colored arterial fluid. This effect is usually attributed to the action of oxygen in the lungs, combining with carbon, and, according to Leibig, with iron. Now carbon and iron are the perfect conductors of electricity, and are *positively* electric—oxygen is negatively so, and we know that it is the agent of essential importance to the support of life. Sir Humphrey Davy, and chemists generally, consider its elasticity owing to electricity, and during its combination in respiration and in the blood, as in all cases of chemical action, there is no doubt *electricity* is set free.

"Pouillet states that all gases, in combining with other elements, give out a certain amount of electricity. He illustrates this proposition by the case of *carbon*, 15 grains of which, in becoming carbonic acid gas, by union with oxygen, give out enough electricity to charge a common sized Leyden jar. By this estimate, how much electricity would be formed in the body? Let us see—it is estimated that 17,811 grains of carbonic acid escape from the lungs in 24 hours; then, by calculation, enough electricity would be generated by the formation of this gas, to charge 333 common sized Leyden jars, which average two feet each of coated glass. If we assume but half of this, we shall still have a very large quantity of electricity, formed by the union of oxygen with carbon, in the various tissues of the body, traversed by good arterialised blood." (W. H. Muller, M. D., in the Magnet, vol. 1, p. 194.)

Galvanic phenomena are witnessed in animals. Humboldt discovered that the muscles of a frog have contractions excited in them by touching the nerve and muscle at the same moment, with a fresh portion of muscle. Muller, of Berlin, has repeated this experiment several times, and confirms its accuracy. Buntzen formed a weak galvanic pile with alternate layers of muscle and nerve; and Prevost and Dumas state that a circle, formed simply of one metal, fresh muscle, and a saline solution of blood, affects the galvanometer. If to the conductors of the galvanometer, plates of platinum are fixed, and a piece of muscle of several ounces weight is placed upon one of these plates, the conductors being then immersed in blood, or a saline solution, a deviation of the magnetic needle of the instrument takes place; or if to one of the conductors a piece of platinum, moistened with muriate of ammonia, or nitric acid is attached, and to the other a portion of nerve, muscle or brain, and the two conductors are made to communicate, the same deviation of the needle is produced." Mejendie, Journ. tom, 111.

"Kaemtz has shewn that efficient galvanic piles can be constructed from organic substances, without any concurrence of metals." Schweigger. Jour. 56, 1.

The magnetism of the living human body has never been satisfactorily shewn, before my experiment. The following one we find in the Medico-Chirurgical Review for January, 1837, but thermo-electricity is here concerned, and we have not seen it noticed elsewhere, nor had an opportunity of trying it.

Dr. Donne of Paris, publishes the results of his enquiries, of which one of his corrollaries is,

"The external acid and internal alkaline membranes of the body represent the two poles of a galvanic pile, whose effects are appreciable by a galvanometer. For if one of the conductors of this instrument be placed in contact with the mucous membrane of the mouth, and the other conductor be applied to the skin, the magnetic needle will be found to shew a deviation of from 15 to 20, or even 30 degrees; and the direction of the needle proves that the mucous or alkaline membrane indicates a *negative* electricity, and the cutaneous or acid membrane a *positive* electricity.

My experiment was brought about by the following circumstance. I observed that mesmerizers (or rather *magnetisers*) after throwing their subjects into the *magnetic state*, direct their fingers with energy towards their eyes, as they say, to render that state more intense, or, in common language, to deepen the sleep. I thought it not improbable that magnetism (motive power,) which is not apparent while the limbs are at rest, might shew its peculiar influence during muscular action. I procured a long delicate magnetic needle, made a strong effort as if throwing off something from the fingers, and brought them carefully to the needle, avoiding to produce vibration of the air, and to my satisfaction, I found *my right hand repel its North pole.* I repeated the experiment, and found it *attract the South pole*, proving *north polarity* in that land. I now tried the left hand, and found it to exhibit *opposite polarity*, attracting *the North* and repelling the *South pole* of the needle.

I have practised the experiment repeatedly, and seen a great many do so, and the fact is positively shewn. The influence is only momentary, but clearly apparent. If it were the result of a current of air, the effects on both ends of the needle would be similar.

This is an important fact in magnetic philosophy, and I think will assist us materially in explaining many interesting phenomena, and most likely give us the means of understanding those of *Mesmerism.*

Bodies similarly electrified or magnetised repel each other, while in opposite states they attract. The *North* pole of a magnet attracts the *South* of another, and repels the *North*, &c. Electrified bodies have a tendency to impart electricity to all surrounding bodies. The magnet communicates magnetism to iron or steel, if placed in contact with it, inducing in the former temporarily, and in the latter permanently, a state similar to its own. All bodies may be more or less magnetic, but not exhibit effects, except under certain circumstances, iron and steel having a greater capacity than others, to acquire and to give out the influence.

The North pole imparts S. polarity, and the S. pole, N. polarity, and the process is called *Induction.* Now, if the right side of the body possesses different polarity from the left, when the magnetizer sits opposite to his subject, they are rightly placed to produce the phenomena of attraction, and for the former to impart to the latter his magnetism. It would seem here, however, to be expected, that the individual of strongest magnetic force would charge the other, as the stronger magnet controls the weaker, and changes its poles—which is the case. The fact of subjects putting the operators into the magnetic state is common, and assists our theory, and the subsequent attraction of the magnetized subject by the magnetizer, is a result to be expected.

A gentleman who is in the practice of magnetism had three attempts made by different persons to influence him, two out of the three fell into the magnetic sleep themselves. I have personal knowledge of one case, where a lady attempted to magnetize her husband, and he, to amuse himself, exerted his will strongly to put her to sleep, and she fell into it herself.

The magnetizer's influence over his subjects is lost if he is exhausted, or becomes weak—if his nervous power is weak, he cannot put them into the magnetic state, or if he should, he cannot keep them so—they wake up immediately on being spoken to or shaken by others. Frequently when I have felt badly and dull, the subject would be sluggish, upon my taking a glass of wine, I could then make them act with more spirit and animation.

Before I attempt to deduce any practical inferences from the success of the experiment detailed, I will continue my reference to others, that will support my proposition.

The facts which I have mentioned being known, the phenomena exhibited by *electric fishes* appear less extraordinary, although the power of producing electric discharges exists only during life and an undisturbed state of the nervous system. The experiments of Walsh, Fahlenburg, Gay, Lussac and Humboldt are our sources of information relative to these fishes; the *torpedo orcellata* and *marmorata* in the seas of the south of Europe —the electric Eel, *gymnotus electricus*, found in several rivers in South America—the *silurus electricus*, met with in the Nile and in Senegal. Several others have heen named, but are less known.

The effects produced by them on animals are perfectly analogous to electric discharges. The shock from the Torpedo, when the fish is touched with the hand, reaches to the upper part of the arm. My late friend, Dr. Cooper, had personal experience of its shocks, which I have frequently heard him describe.

Muller, in his late work on Physiology, observes:

" Substances which are conductors or non-conductors of electricity, *are equally so* to the influence communicated by the Torpedo or Gymnotus, which are the only electric fishes that have been hitherto accurately examined with reference to their electric action; a shock is propagated through a chain of several persons when those at the extremities of the chain touched the fish. Walsh procured sparks from the Gymnotus, which were seen by Pringle, Magellan and Ingenhous. Fahlenburg also procured them by the same experiment. More recently, Linari and Matteucci, have succeeded in obtaining sparks from the Torpedo."

Although no effect has been observed on the electrometer, Dr. J. Davy discovered that the electric organs of the Torpedo have really an action on the galvanometer. He also succeeded in decomposing water, and in rendering *needles magnetic*, and found that the electric discharge was conducted through a bar of iron several feet long. Linari and Matteucci have also communicated the magnetic property to needles, have decomposed water, and have observed marked deviations of the galvanometer at the moment of the discharges. A very remarkable fact is also stated by Muller.

" The power of producing the discharge, is quite *voluntary*, and depended on the integrity of the nerves of the electric organs, which are largely supplied with them. The heart may be removed, and the shocks will be continued, but with the destruction of the brain, or division of the nerves going to the organs, the power ceases. The discharge does not take place every time the fish is touched, but depends on a voluntary power, hence it is necessary to irritate it."* Some think it has power to direct the shock, as when Humboldt and Bonpland held the head and tail, both did not always receive the shock. Matteucci, who experimented on one hundred and sixteen torpedoes on the shores of the Adriatic, during two months, is convinced that they can discharge their shocks *when* they please, but not *where*. He says:

" Where the animal is endowed with a great vitality, the shock is felt, whatever part of the body is touched. In the proportion as the vitality ceases the region of its body in which the discharge is perceptible is reduced to that which corresponds to the organs commonly called electrical."

This fact accords with the loss of nervous power in the human body—the extreme filaments losing their power first. He made a number of interesting experiments which shew that the electric power of the fish increased with the acceleration of the circulation and respiration. Among them was this: He took a very small and weak torpedo whose respiratory motion was at times scarcely perceptible, and from which it was very difficult to obtain a discharge. He placed this torpedo under a bell full of oxygen gas. The animal immediately became agitated, opened its mouth several times, making strong contractions, and at the same time gave him five or six strong electrical discharges, after which it died.*

He also found that cutting, or tying and compressing the nerves of one of the organs, the discharge ceases on that side, while it continues on the opposite side. Does not this have an analogy with the paralysis of the human body?

He shows that the chief electric organ is the last lobe of the brain, which he calls " the swelling of the elongated marrow, from whence the nerves proceed," &c., answering to our *medulla oblongata*, which gives our nerves of motion.

He also shews, by experiment, that no trace of electricity is found in the fish, except when it discharges itself. This is very extraordinary, and adds to our theory of the electric or magnetic action of our bodies being under our will, and only apparent during muscular motion. The very curious experiments of Matteucci, may be found in Sturgeon's Annals of Electricity, vol. 2. 1838.

In the last number of the *Medico Chirurgical Review*, which I received a few days ago, is an excellent review of a late work of Dr. Carpenter, on physiology, which is lauded in very high terms Dr. C. mentions of electrical fishes, that their electric nerves have an origin similar to that of the 8th pair in the human body.

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* Professor Ellett, of the South Carolina College, last summer, had an opportunity of experimenting with a Gymnotus about four feet long, in New York. He informs me that he procured the spark from it, and that the power of the fish is certainly voluntary.

* I trust I may be excused in tracing the influence of facts on mesmeric action. Mr. Townsend mentions that his mesmeric influence is stronger and developed more quickly when he breathes rapidly.

The Reviewer remarks, "Now, the circumstance that the electrical nerves in the Torpedo should be analogous to the 8th pair in the higher vertebrata, is one of a highly striking nature. Of all nerves in the human subject, the 8th pair, (*par vagum*) is that which, with the organs to which it is distributed, appears to exhibit the most intimate *sympathizing* connection with cerebral impressions. The influences of fear and anger, (which are probably the chief exciting causes of the instinctive electric discharges) of hope, affection, and indeed, of all passions, whether of an exciting or depressing kind, are inevitably manifested more or less on the heart, lungs, and stomach, larynx, &c., and which derive their nervous influence, partly through the branches of the *par vagum*. The analogy is even farther carried out by pathology. For in hydrophobia, a disease in which the nervous energy is in paroxysms, exalted to the highest pitch, and the secretions of parts, to which the 8th pair is supplied, are exasperated into a poisonous quality—the chief lesion discovered after death, has been said to be found in the trunk of the 8th pair, where it issues from the skull."

Dr. Davy observed, that after the removal of the brain of a Torpedo, no more shocks were given when the nerves of the electric organs were irritated. In one instance, when a small portion of brain had accidentally been left in connection with the electric nerves of one side, the fish gave a shock when irritated.

Muller expresses the belief that, "electricity is generated in living bodies," and that it "does not appear possible for the various chemical changes which take place in them, to occur without some development of electricity."

The experiments of Pfaf and Ahrens, reported in Meckel's Archives, (v. iii. p. 161) among other results shewed, that the electricity of the human body in a healthy state is positive—that excitable persons of a sanguine temperament, have more free electricity than indolent persons of a phlegmatic temperament—that when the body is cold, no evidence of electricity is shewn, but gradually it becomes manifest as warmth is restored—that during the continuance of rheumatic affections, the electricity of the body is reduced to zero, but is manifested again as the disease subsides. Humboldt also thinks, that rheumatic patients have an insulating action action on the feeble current produced by a single galvanic circle.*

To be Continued.

The Major Periods of Development in Man, being a sixth contribution to Proleptics,

By T. Laycock, M. D.,

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The course of human life has been divided into periods from a very remote antiquity. The most casual observer must see that there is a progressive evolution of each individual, through infancy, youth, and puberty, to the climax of complete development, both mental and corporeal; and from thence a gradual involution of the system, and a decline of all the powers, until the man descends into what has been expressively termed his second childhood, and, at last, into the grave. This cycle of change, looked at as a whole, gives to the mind the idea of ascent and descent,—not quickly or irregularly, but step by step; and since certain points are well marked in the course of life (as dentition, puberty, the decline of the sexual functions, &c.), and divide it into distinct periods, these were termed by the Greeks, with reference to this idea, *climacteric*, from *gradus*, *scala*, a step, or series of steps. The modern German term for the climacteric years, *stufenjahre*, step-years, expresses the same idea. These years and periods have also been termed septenary, from an early age, because the latter were supposed to comprise a lapse of seven years, so that the climacteric and septenary periods are synonymous. The origin of this idea of periods of seven years is lost in remote antiquity. It formed a part of the doctrines of Pygathoras, who, it appears, was not the founder, but only the European propagator of these doctrines, he having derived them from the ancient Egyptian or Chaldeans. As applied by the latter, they referred not only to the health, but to the events of a man's life. "Pericula quoque vitæ fortunarumque hominum quæ *climacteras* Chaldæi appellant, gravissima quæque fieri affirmat Aristides Samius septenariis." (Aulus Gellius, lib. iii., cap. x.) This doctrine of septenniads and septenaries has come down to modern times almost unchanged. Its history presents the singular phenomenon of a mere philosophical dogma passing uninjured through the most extensive revolutions in human society, and surviving the utter overthrow of empires and religions. Long after the age of Pygathoras we trace it in the Hippocratic writings; it is prominent in those of the later Greeks; it flourished in the middle ages; and it is extensively adopted by modern physicians. The editor of the "Medico Chirurgical Review," for example, divides life into ten septenniads, after the ancient mode, asserting, further, that there is a difference of seven years between the two sexes, not in the actual duration of life, but in the stamina of the constitution, the symmetry of the form, and the lineaments of the face. (Economy of Health, second edition, p. 66.) It is manifest that the major vital periods can only be marked by changes in structure or function. By the observation of these changes the ancients professed to subdivide the whole period of life; and this plan, indeed, is the only safe plan for the modern scientific inquirer. He must observe the evolution of structure, of function, and of disease.

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* I find since this lecture was written in the Magnet, vol 1, p. 193, that Dr Muller, of Pittsburgh, has published experiments to prove that the electricity of the body is developed during motion, so that the electrometer is affected.

Diocles, the successor of Hippocrates both in fame and skill, wrote a book "concerning weeks." Macrobius has a notice of his doctrines, which describe the development of the individual man as follows:—The limbs of the male fœtus are distinct at the seventh week and the birth takes place at the ninth month, but if they be distinct at the fifth week, birth takes place at the seventh month. If the infant survive the seventh hour, it will probably live; at the end of seven days the umbilical cord sloughs off; in 2x7 days the infant perceives the light, and in 7x7 days it turns its head to follow with its eyes the objects presented to it. When seven months old, its teeth begin to develop; in 2x7 months it can sit without fear of falling; after 3x7 months it speaks; in 4x7 months it is sufficiently strong to walk firmly; and at 5x7 months it has an aversion for the breast. At the age of seven years it loses its first teeth and speaks distinctly; at 2x7 years it attains the age of puberty; at 3x7 the beard appears and the youth ceases to grow in height; and at 4x7 he ceases to increase in size. In 5x7 years the man is at his full strength, and so continues at 6x7; but at 7x7 the strength somewhat diminishes. Lastly, at 10x7 (the two most perfect numbers) are the limits of life, and those who have passed this term are exempt from all labour. (Le Clerc, Histoire de la Medecine, p. 281.) "The days of our years are three-score years and ten." So wrote Moses, a philosopher, poet, historian, and statesman, the supposed fellow-student of Hermes in the college of On, and undoubtedly a man learned in all the learning of the Egyptians; and he adds, almost immediately, "so teach us to number our days that we may apply our hearts unto wisdom," as if he had been pondering over the philosophy then current, and thinking how stoically it calculated the duration of the health and life of man, numbered his days, and hopelessly demonstrated their termination.

The doctrines of Diocles are distinctly laid down in the Hippocratic writings, especially in the book entitled "De Carnibus," and in those "De Septimestri Partu" and "De Octimestri Partu," written apparently by the same author. The writer refers to the septennial phases, and specially notes the teeth developed in the fourth septenary, which he terms *moderatores*. That the life of man is circumscribed by the number of seven days is manifest, he observes, and then refers, like Diocles, to the periods of fœtal development, but introduces *decades of weeks*, and observes that the period of utero-gestation is four decades of weeks. He also states the doctrine of equal and unequal days; connects the periods of fevers with the periods of development; and refers to the full moon as having influence.

Some critics have remarked that the book termed "De Carnibus," ought to be entitled "De Principiis," *concerning principles*. It is very probable that this and the two following books constitute an exposition of the Pygathorean doctrines as they were applied to transcendental physiology and medicine when the author wrote.* Hippocrates was thoroughly imbued with these views, and has left several practical observations. For example, he says that convulsions do not accompany fever in patients above the age of seven years, and that if they do, they indicate danger. According to him, the following diseases do not attack individuals under the age of puberty, or fourteen years:—inflammations of the lungs, pains in the side, gout, diseases of the kidneys, varicose veins of the legs, menorrhagia, cancer, a species of leprosy (vitiligo), a disease termed deflexion on the medulla spinalis, hæmorrhoids, and a disease of the intestines termed *chordapsus*. From the fourteenth to the forty-second year, any kind of disease may attack the system, but from the latter to the sixty-third it is exempt from struma, from calculus in the bladder (unless it existed previously), from defluxion on the spinal medulla, from diseases of the kidneys, unless arising in previous years, from bleeding piles, and from menorrhagia, except when connected with antecedent disease. These statements, whether considered physiologically or pathologically, are correct upon the whole.

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* Burdach, the German physiologist, adopts the decade numeration in a work he has published on the periods of life, entitled "Die Zeitrechnung des Menschlichen Lebens;" Leipzig, 1829. According to M. Quetelet (for I have not seen the book) he divides life into ten periods of four hundred weeks each, and thus makes an age of the first dentition, adolescence, &c. In the first period is a secondary one of forty weeks, the age of lactation.

The preceding remarks must serve as an exposition of the doctrine of the ancients regarding septenaries. It now remains to inquire how far these doctrines are true, and what practical benefits can be derived from them.

In man, life may be divided into three great periods. The first may be defined as extending from the commencement of intra-uterine existence to the *complete* evolution of the sexual organs; the second comprises the period in which those organs are active; and the third extends from the period when they cease to act to the termination of life. These are clear and well-defined epochs, but it is difficult to fix their precise dates, for *all* vital changes are gradual, and do not admit of exact limitation. Similar difficulty is experienced in the attempt at a natural classification of animals, and is only overcome by having transition or inosculent groups. We may adopt a like expedient here. The first period may be stated as comprising 21 years, the second 28 years, and the third 21 years. The secondary periods of the first great period will be seven, namely,—1, intra-uterine life; 2, the period between birth and the first dentition; 3, the time occupied by the first dentition; 4, the period between the first and second dentitions; 5, the time of the second dentition; 6, the period between the latter and commencing puberty; 7, the time occupied in the evolution of the reproductive organs. The second great period will comprise three minor periods. First, the perfecting of adolescence from 21 to 28; secondly, the climax of development, or status of life, from 21 to 42; and thirdly, the septenary of decline in the reproductive powers, extending from 42 to 49, after which latter age conception rarely takes place. The third comprises also three periods, the first from 49 to 63, the grand climacteric; the second from 63 to 70, or old age; and the third from 70 to death, the years of *ætas ingravescens*, or decrepitude. In fixing these epochs I have followed the generally received septennial division, being reluctant to make any innovation thereon. It would, I think, however, be more in accordance with modern science to date, not from the birth, but the conception of the individual. If this be done, each great period should be calculated as commencing nine solar months earlier.

Those of the readers of THE LANCET who may have perused the first paper in my series would observe that the periods of development in insects were more particularly alluded to as establishing the minor periods, namely, those in relation with critical days, the catamenial period, &c. These phases of development, in birds, are indicated in most instances by moulting, a process in which the mucous membrane of the whole system is implicated, as well as the skin and its appendages. In all birds a moult takes place sooner or later after being hatched, but it does not clearly appear what dentition (for this is analogous to moulting) corresponds to this moult. I am inclined to think, however, that its analogue is neither the first nor the second dentition, but both. The plumage characteristic of the sexes begins to appear at this moult, and it is always a period of danger to domesticated birds, as peacocks, turkeys, pheasants, canaries, &c. As iron is recommended for their cure, the state of health seems analogous to the chlorotic condition of young people. Buffon remarks that the period is analogous to dentition in children, meaning, I suppose, the first. In turkeys it occurs in six or eight weeks after the hatch; in peacocks, four weeks; in partridges twelve weeks; in canaries, five or six weeks. The period during which the eyes of some mammals are closed after birth is worthy notice, this being evidently heptal. In whelps it is fourteen days; in bear-cubs, twenty-eight days. It may be possible that the idea of Diocles, respecting the first use of the eyes after birth, may have some foundation in truth. That some change takes place in the infant in the eighth week may be fairly inferred from the fact that the man with ichthyosis, (the porcupine man) whose history is detailed in an early volume of the "Philosophical Transactions," (1731), and who transmitted his disease to his progeny, stated that the cutaneous affection appeared in himself when about seven or eight weeks old; and we find, subsequently, that his six children had the disease first at the same age. The tusks of young elephants are shed in the twelfth or thirteenth year, but the cheek-teeth appear six or seven weeks after birth. But the seventh and fourteenth days of infants seem to constitute periods. M. Quetelet finds that the weight of an infant diminishes sensibly immediately after birth, and does not begin to increase until after the seventh day. In 1810, Dr. Holland published a table of deaths in newly-born infants from tetanus in the Westmann islands, Iceland, and denoted the days most fatal: in 185 deaths, 75 took place on the seventh day. A few hours must be allowed for retarded labor and errors in computation, but if we take the sixth, seventh, and eighth days, the average of deaths is 37 2-3 daily, while the average of the remaining 18 days is only 4. An increased mortality took place on the fourteenth day after birth. (Edin. Med. and Surg. Jour. vol. viii., p. 207.) The fourteenth day after birth is marked also by changes in the lower animals.

The order of development of the teeth in man is an interesting subject, as upon it we must principally rely for determining the periods of development in the system generally. Mr. Goodsir's researches are exceedingly interesting, as marking their gradual hebdomadal evolution in the embryo and fœtus, but are not sufficiently accurate for our purpose as to the *time* when the changes occur. Previously to the *eruptive* stage, or common dentition, there are three phases of development: the *papillary*, commencing about the seventh week of fœtal life, the *follicular* in the tenth, and the *saccular* in the fourteenth week, which continue until the eruptive stage, about the seventh month after birth, when the four central incisors present themselves. After this period the other teeth appear at intervals not yet precisely fixed, the first dentition being terminated, however, by the end of the thirty-sixth month. All is then quiescent for three or four years, or until about the middle or end of the seventh year, when the first true molar makes its appearance, and which, according to Mr. Goodsir, is analogous to the milk-teeth in its mode of formation, the permanent central incisors appearing about the same time. Mr. Saunders has proposed to make use of the development of the permanent teeth to ascertain the ages of factory children, and his table, deduced from several hundreds of observations, is as follows:—

The first true molars appear at the age of	7 years.
The central incisors	8
lateral incisors	9
first bicuspids	10
second bicuspid	11
canine	12 to 12½
second true molars	12½ to 14

The third pair of molars, the *dentes sapientæ*, appear later; according to Meckel and Goodsir, at from 16 to 20 years.

In animals generally the development of the teeth is closely connected with the evolution of the reproductive organs. The tusks of the stallion, wild boar, and walrus, are sexual, and are simply canine teeth of an unusual size Upon inquiring how far the teeth are related to the reproductive organs in man, it is interesting to observe that there is occasionally a coincidence of development between the two, which, *a priori*, would seem improbable. From time to time instances of precocious puberty have been recorded, and it would appear that the change in the ovaria or testes, and in the system generally, has occurred concurrently with a period of about forty weeks after birth, or with the first or second dentition. I have collected 17 instances of this kind, with the following results:—5 were males and 12 females; of these, 3 males and 1 female were more fully developed than usual at birth; of the remaining, 1 male and 3 females exhibited the phenomena of incipient puberty at the age of eight or nine months, 1 at two years, 1 at two years and a half; 6 had the catamenia or were fully developed at three or four years, and 3 were perfect women at 8 years. Two of the latter were pregnant at that age, and the remaining one lived to have a numerous family. In all these instances in which the growth of the teeth is alluded to, it is sufficient to state that it was irregular. (*Vide* Lond. Med. and Phys. Jour., vols. vii., xxiv., xxv., lxv.; New Lond. Med. and Phys. Jour., vol. ii.: Med. Chir. Transactions, vol. i., ii., xii., &c.)

It is probable, indeed, that sexual development takes place in these cases, as well as normally, *per saltum*, an effort being made just at the time when certain teeth are appearing; after the tooth is perfected, and the constitutional effort has ceased, so also will the nisus in the ovaria or testes. Occasionally the catamenia appear in young females about the age of twelve or thirteen, for once or twice, when the canine teeth are protruding; and then cease, to re-appear only when puberty fairly commences, about the age of fourteen, the period at which the second molars burst forth. Taking the appearance of the teeth as indicating the periods of a constitutional nisus, we must look upon the third molar teeth as marking the commencement of that last stage of development in which the individual is perfected.

Upon a review of dental development it will be observed that the periods lengthen as age advances First, the primary papillæ appear hebdomadally in the fœtal state; then, during the eruptive stage, the teeth succeed each other at intervals of six or eight weeks, but afterwards of three or four months. During the second dentition the interval is at first a year, then a year and a half, or two years, then four or five years. The dentition observed at an advanced age I shall notice subsequently.

What relations have these dental periods to functions, disease, and death? First, as regards function. The development of the thorax in males, concurrently with the testes, alters the functions of the lungs; besides, as plants consume a larger quantity of oxygen while flowering, or, in other words, when at puberty, we may look for an increased consumption in animals and man at puberty. Now, M. Andral has found that the excretion of carbonic acid from the lungs is greater in males than in females after eight years of age; in the former, at puberty, the quantity suddenly increases, while in the latter, when the catamenia commence, the excretion is as suddenly arrested, and remains stationary in quantity, and almost as small as in childhood, so long as the monthly nisus continues: when this ceases, or when pregnancy takes place, the quantity immediately increases. In males the excretion begins to diminish in quantity at the age of 30; between 16 and that age it is double that excreted by the female. M. Bourgery made experiments on the *capacity of the lungs* in the two sexes at different ages. He found that the volume of the respiration of the male doubles that of the female, and that the plenitude in both sexes occurs at the age of 30. The volume of air required by an individual in an ordinary respiration augments gradually with the age. The relations between the ages of 7, 15, 20, and 80, are geometrical, and represented by the numbers 1, 2, 4, 8. (Dublin Medical Press, March 15, 1843.)

The muscular system acquires additional development during the second dentition, and in boys the respiratory movements are proportionally active; but it appears that they are not so in girls, and we can thus explain the greater prevalence of chorea in the latter sex at the second dentition. The less liability to convulsions, on the access of febrile affections, may be connected with this increased muscularity. According to Quetelet, during childhood the lumbar power of boys is about one-third more than that of girls; towards the age of puberty one-half; and the strength of a developed man is double that of a woman. These data correspond so closely with those of Bourgery and Andral, on the respiratory functions, that the coincidence cannot be casual.

M. Quetelet also shows that the ratio of growth of a child in height diminishes as its age increases, until the end of the first dentition. From the fourth or fifth year the increase of stature is almost the same in each year up to the sixteenth, when it diminishes gradually until the attainment of the 25th year, if a male, but earlier if a female. The weight follows the same rate of increase as the height.

According to Quetelet the viability between birth and complete puberty varies considerably at different ages. From birth to the completion of the first dentition the mortality is great; it then diminishes, and at the age of five years the *probability of life* attains its maximum. At 13 or 14 a favorable change is again observed; *viability* is then at its maximum, or in other words, it is the period when man can most depend upon his actual existence. The periods of dentition (and also the analogous periods of moult in animals) are the times when the individual is most liable to disease, and, during the first dentition at least, to death. Mr. Farr's tables show this very strikingly. The eruption of each individual tooth, both in the first and second dentition, is invariably attended with considerable constitutional disturbance in delicate persons, so considerable, indeed, during even the eruption of the third molars, or *dentes sapientiæ*, as sometimes to create alarm. The great mortality in the first four months of infantile existence seems to be connected rather with congenital debility, many only breathing once or twice; or wtth extraneous circumstances, as early exposure to cold, &c. Antecedently to the first dentition infants are remarkably free from the attacks of prevalent and fatal epidemics.

The development of the reproductive organs has a secondary influence on the system at large, and modifies its diseases. In males (as just stated) the thoracic region is more fully developed, the respiration and circulation becoming more active. We can thus explain the liability of youths to diseases of the heart, and to hæmoptysis and other pulmonary affections. In both sexes the kidneys are acted upon by the ovaria and testes, and their functional activity is exalted or diminished. Hence a class of diseases is observed in youth analogous to those observed in spring and autumn. In females with the gouty diathesis this ovarian action upon the kidneys develops those irregular forms of hysteria which so often baffle the skill of the routinist. The irritation set up in various organs connected anatomically or physiologically with the ovaria, as, for example, the organs of voice, the mammæ, the pelvic viscera, the dorso-lumbar cord, and those parts of the encephalon associated with the sexual instinct, is so great as to stimulate inflammation, and being founded on an arthritic diathesis it assumes the migratory character of arthritic disease. Thus the diagnosis and the treatment are rendered hopelessly difficult to the practitioner whose "practical" knowledge is not derived from the true source of practical skill, namely, a knowledge and just appreciation of physiological laws.

These views respecting the ovarian and renal origin of the anomalous forms of hysteria are developed at length in my published work; as they are based on the solid foundation of physiology applied to pathology, I venture to hope that in proportion as the solido-humoral pathology of the day is perfected, their correctness will be admitted. It is manifest that as the due evolution of the system in youth is necessary to healthy and useful manhood, and to a comfortable old age, the laws of development and their bearing on pathology are of the first importance.

To consider the remaining periods of life, namely, the *status* and decline, would be to review the whole domain of pathology. After the age of 30 or 35 the abdominal viscera play a more important part in health and disease, and often give the latter its distinguishing characteristics. It is worthy of remark, that just as precocious puberty is occasionally seen in infancy, so an attempt at rejuvenescence is sometimes made in old age, about the grand climacteric, or later. There is a fresh eruption of teeth, a complete set sometimes protruding, the reproductive organs reassume their activity, and the catamenia again appear, as well as other phenomena, observed only during the evolution of the system. Stoll, Good, and others, have recorded instances of this kind. That this is not mere chance is shown by the fact that a similar change is observed in the lower animals. Gallinaceous albinos—pheasants, for example,—according to Temminck, will assume all their former brilliancy of plumage, proving (since the latter is strictly sexual) that the reproductive organs are again active. The hen of the gallinaceous and other birds occasionally approximates in plumage to the cock, and ceases laying. It has been shown by Yarrell that this change is connected with a shrinking of the ovaries; but sometimes the male plumage falls off, and that of the female is redeveloped, and then the bird lays eggs again. Nature herself here exhibits something like perpetual youth, and those who wish for this grand desideratum would do well to inquire closely into the circumstances which accompany the rejuvenescence described.

The periods of life have a much more important and practical bearing on the periodic development of hereditary disease. It is as certainly true that *all* the peculiarities of the parent are transmitted to the offspring, as that the whole is equal to the sum of all its parts. Some or many of the peculiarities derived from the one parent may be negatived by peculiarities derived from the other, or even by extraneous circumstances, and not be manifest in the offspring; but they are not the less surely there, and may and do reappear in the third or fourth generation. In a previous paper I observed that as conception took place at a minor period (the catamenial), the minor periods, at least, of the offspring, would correspond to those of the mother, and that if twins dated their conception from the same hour, the periods of their life would be coincident. I gave, also, an illustration of this inference, in which twins (two boys) went through dentition, and were attacked by indisposition and infantile disease always at the same time. Stoll seems to have suspected some coincidences of this kind when he remarked—" Utile est observare necne semper eo tempore quo infans corripitur epilepsia matri fluant menses, necne." (Ratio Medendi, Aphor. 209.) What is true of the minor periods is true of the major, and examples in proof are numerous. Phthisis carries off the members of a family as they successively arrive at a certain stage of development; insanity appears at a known age in all the members of another; apoplexy and paralysis in those of a third, &c. Dr. Martin has recorded a striking example of this periodic development of hereditary disease. A person named Moses Le Compte, who was blind, had *thirty-seven* children and grand-children that became blind like himself. The blindness is described as commencing in all about the age of fifteen or sixteen, and terminating in total deprivation of sight about twenty-two. (Quoted from the Baltimore Med. and Phys. Jour., vol. 1., p. 394.) But, indeed, many similar instances might be quoted from numerous writers, which, if less striking, are equally instructive· Such may be found, for example, in Dr. Holland's interesting essay on the Hereditary Transmission of Disease. (*Vide* Medical Notes and Reflections, p. 27, 1st edition.) The assiduous cultivation of this branch of vital proleptics promises the most valuable and practical results. Every family should possess its medical history, with exact dates, just as a nation its archives, and illustrated by a series of Daguerreotype portraits. The physician could then have data that might enable him to anticipate hereditary disease, and if not to prevent its development, at least to predict its occurrence and modify its influence. But, indeed, if the laws regulating the hereditary transmission and periodic evolution of morbid states be once clearly ascertained *in all their relations*, much of the imperfection of medical science would be obviated, and its value proportionally exalted.

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With our countryman, Clifton Wintringham, the school of *mathematical physicians* seemed to expire. With section A, that of "Mathematics and Physics," in the British Association of Cork, the labours of medical men have as little connection as with any of the departments into which the meetings were divided. Yet the time may come when the data of physiologists will be submitted to mathematicians, and figures be allowed to express the mysterious laws of organic life.—*Edit. L. Lancet.*

NEW ERA IN THE PRACTICE OF MEDICINE.

Lectures delivered at the Egyptian Hall,
Picadilly, *London*, 1840.
By Samuel Dickson, M. D.*

LECTURE I.

Fallacies of the Faculty.

Introduction—Phenomena of Health and Sleep—Disease and its Type—Causes.

Gentlemen,—We daily hear of the march of intellect, of the progress of perfection of many branches of science. Has Medicine kept pace with the other arts of life—has it fallen short or excelled them in the rivalry of improvement? Satisfactorily to solve this question, we must look a little deeper than the surface—for Truth, as the ancients said, lies in a well,—meaning thereby that few people are *deep*-sighted enough to find it out. In the case of Medicine, we must neither be mystified by the boasting assertions of disingenuous teachers, nor suffer ourselves to be misled by the constant misrepresentation of the medical press—for these publications for the most part are nothing better than mere organs of party, and, like the newspapers of the day, do often little more than crush and cry down any truths that militate against the interest of the schools and *coteries* they are employed to serve. The late Sir William Knighton was at the head of his profession; he was, moreover, physician to George the Fourth. Joining, as he did, much worldly wisdom and sagacity to a competent knowledge of the medical science of his age, his opinion of the state of our art in these later times may be worth your knowing; more especially as it was given in private, and at a period when he had ceased to be pecuniarily interested in its practice. In one of his *private* letters, published after his death, he thus delivers himself:—"It is somewhat strange that, though in many arts and sciences improvement has advanced in a step of regular progression from the first, in others, it has kept no pace with time; and we look back to ancient excellence with wonder not unmixed with awe. Medicine seems to be one of those ill-fated arts whose improvement bears no proportion to its antiquity. This is lamentably true, although Anatomy has been better illustrated, the Materia Medica enlarged, and Chemistry better understood."* Dr. James Gregory, a man accomplished in all the science and literature of his time, was for many years the leading physician of Edinburgh; but he nevertheless held his profession in contempt. On visiting London, he had an opportunity of being introduced to his equally celebrated countryman and contemporary Baillie. Curious to know Gregory's opinion of the man who then swayed the medical sceptre of the metropolis, his friends asked him what he thought of Baillie. "Baillie," he replied, knows *nothing* but physic;" in revenge for which, Ballie afterwards wittily rejoined, "Gregory knows *every thing* but Physic." But what was Dr. Baillie's own opinion of his profession after all? I do not now allude to his language during the many years he was in full practice; then, doubtless, with the multitude who thronged his door, he really believed he knew a great deal; but what did he say when he retired from practice, and settled at his country seat in Gloucestershire? *Then*, without the slightest hesitation, he declared he had no faith in Physic whatever! Gentlemen, you must not from this imagine that the fortunate doctor intended to say that the world all along had been dreaming when it believed Opium could produce sleep, Mercury salivate, and Rhubarb purge. No such thing—he only confessed that he knew nothing of the manner of action of these substances on the body, nor the principle upon which they should be used. Now, what would you think of a sailor who should express himself in the same way, in regard to the rudder and compass,—who should tell you that he had no faith in either instrument as a guide to steer a vessel by?—why, certainly that he knew nothing of the profession by which he gained his living. And such really was Dr. Baillie's case. The great bulk of mankind measure the professional abilities of individuals solely by their degree of reputation—forgetting Shakspeare's remark, that a name is very often got without merit, and lost without a fault. That Baillie actually attained to the eminence he did, without any very great desert of his, what better proof than his own declaration?—a declaration which fully bears out what Johnson tells us in his life of Akenside: "A physician in a great city, seems to be the mere plaything of fortune; his degree of reputation is for the most part totally casual; they that employ him know not his excellence—they that reject him know not his deficiency." But still, some of you may very naturally ask, how could Dr. Baillie, in such a blissful state of ignorance or uncertainty, contrive to preserve for so long a period his high position with the *professional* public? This I take to be the true answer: the world, like individuals, has its *childhood*—a period when, knowing nothing, it may fairly be excused for believing any thing. When Baillie began practice, the profession were slowly and tardily groping their way in the dark; a few practical points they of course knew; but of the true principles of the application of those points, they were, as I shall afterwards show you, entirely ignorant. Most of them were, therefore, very ready to follow any one of their number who should most lustily cry, *Eureka—I have found it!*—that was what Dr. Baillie did. At the commencement of his career, few medical men opened the bodies of their dead patients; for Sydenham, the English Hippocrates, had long before ridiculed the practice. It was, therefore, all but in disuse, and all but forgotten, when Dr. Baillie published his book on Morbid Anatomy, —a book wherein, with a praisworthy minuteness and assiduity, he detailed a great many of the curious appearances so usually found in the dissection of dead bodies. Had he stopped here, Dr. Baillie would have done Medicine some little service; but by doing more he accomplished less—more for himself, less for the public; for by further teaching that the only way to learn the cure of the living is to dissect the bodies of the dead he put the profession on a wrong path,—one from which it will be long before the unthinking majority can in all likelihood be easily reclaimed. In the earlier part of his career, Dr. Baillie, it is only fair to suppose, believed what he wrote, though by his after-declaration he admitted himself wrong. His arguments nevertheless succeded but too well with the profession; proving the truth of Savage Langdor's observation, that, "In the intellectual as in the physical, men grasp you firmly and tenaciously by the hand, creeping close at your side, step by step, while you lead them into *darkness*, but when you lead them into sudden light, they start and quit you!" To impose upon the world is to secure your fortune; to tell it a truth it did not know before is to make your ruin equally sure. How was the exposition of the Circulation of the Blood first received? Harvey, its discoverer, was persecuted through life; his enemies in derision styled him the *Circulator*,—a word in its original Latin signifying vagabond or quack; and their efforts to destroy him were so far successful, that he lost the greater part of his practice, through their united machinations. "Morbi non eloquentia sed remediis curantur" is an observation some of you may have met in Celsus, which, if you will allow me, I will translate:—Diseases are cured by *Remedies*, not by *Rhodomontade*. Yet strange to say, the generality of great professors who have successively obtained the public ear since the time of the Roman physician, have been most inveterate against every thing savoring of innovation in the shape of remedies. Let me give you examples. When a limb is amputated, the surgeons, to prevent their patient bleeding to death, as you all well know, tie the arteries. In the time of Francis the First, they followed another fashion: then, and formerly, they were in the habit of stanching the blood by the application of boiling pitch to the surface of the stump. Ambrose Pare principal surgeon to that king, introduced the *ligature* as a substitute—he first tied the arteries. Mark the reward of Ambrose Pare: he was hooted and howled down by the Faculty of Physic, who ridiculed the idea of hanging human life upon a thread, when boiling pitch had stood the test of centuries. In vain he pleaded the agony of the old application; in vain he showed the success of the ligature. Corporations, colleges, or coteries of whatsoever kind, seldom forgive merit in an adversary; they continued to persecute him with the most remorseless rancour: luckily he had a spirit to despise and a master to protect him against all the efforts of their malice. What physician now-a-days would dispute the value of antimony as a medicine? Yet, when first introduced, its employment was voted a crime. But was there no reason! Yes it was introduced by Paracelsus—Paracelsus the arch-enemy of the established practice. At the instigation of the college, the French parliament accordingly passed an act making it penal to prescribe it. To the Jesuites of Peru, Protestant England owes the invaluable bark; how did Protestant England first receive this gift of the Jesuites? Being a popish remedy, they at once rejected the drug as the invention of the father of all papists—the devil. In 1693, Dr. Groenvelt discovered the curative power of Cantharides in dropsy; what an excellent thing for Dr. Groenvelt!—Excellent indeed; for no sooner did his cures begin to make a noise than he was at once committed to Newgate, by warrant of the president of the College of Physicians, for prescribing cantharides internally. Blush! most sapient College of Physicians—your actual president, Sir Henry Halford, is a humble imitator of the ruined Groenvelt!—Before the discovery of vaccination, *Inoculation* for Small Pox was found greatly to mitigate that terrible disease. Who first introduced small pox innoculation? Lady Mary Montague, who had seen its success in Turkey. Happy Lady Mary Montague! Rank, sex, beauty, genius—these all doubtless conspired to bring the practice into notice. Listen to Lord Wharncliffe, who has written her life, and learn from his story this terrible truth—that *persecution* ever has been, and ever will be the only reward of the benefactors of the human race. "Lady Mary," says his Lordship, "protested that in the four or five years immediately succeeding her arrival at home, she seldom passed a day without repenting of her patriotic undertaking; and she vowed she never would have attempted it if she had foreseen the vexation, the persecution, and even the obloquy it brought upon her. The clamours raised against the practice, and of course against her, were beyond belief. The faculty all rose in arms to a man, foretelling failure and the most disastrous consequences; the clergy descanted from their pulpits on the impiety of thus seeking to take events out of the hands of Providence; and the common people were taught to hoot at her as an unnatural mother who had risked the lives of her own children. We now read in grave medical biography, that the discovery was instantly hailed, and the method adopted by the principal members of that profession. Very likely they left this recorded—for, whenever an invention or a project, and the same may be said of persons, has made its way so well by itself as to establish a certain reputation, most people are sure to find out that they always patronized it from the beginning, and a happy gift of forgetfulness enables many to believe their own assertion. But what said Lady Mary of the actual fact and actual time? Why, that the four great physicians deputed by government to watch the progress of her daughter's inoculation, betrayed not only such incredulity as to its success, but such *an unwillingness to have it succeed*—such an evident spirit of rancor and malignity, that she never cared to leave the child alone with them one second, lest it should in some secret way suffer from their interference."

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* The readers of the Dissector will find these Lectures extremely rich.

Gentlemen, how was the still greater discovery of the immortal Jenner received—Vaccination? Like every other discovery—with ridicule and contempt. By the Royal College of Physicians, not only was Jenner persecuted and oppressed; but long even after the benefits which his practice had conferred upon mankind had been universally admitted, the pedants of that most pedantic of bodies refused to give him their license to practice his profession in London; because, with a proper feeling of self-respect, he declined to undergo at their hands a schoolboy examination in Greek and Latin. The qualifications of the schoolmaster, not the attainments of the physician; the locality of study, rather than the extent of information possessed by the candidate, were, till very lately, the indispensable preliminaries to the honours of the College. Public opinion has since forced them to a more liberal course. But, to return to Jenner;—even religion and the Bible were made engines of attack against him. From these Errham of Frankfort deduced his chief grounds of accusation against the new practice; and he gravely attempted to prove from quotations of the prophetical parts of Scripture, and the writings of the fathers of the church, that Vaccination was the real *Antichrist!* Can you wonder that medicine should have made so little progress, if those only make fortunes by means of it who know nothing more than the jargon and crudities which pass for medical science with the vulgar? How true are the words of the Son of Sirach,—after searching the world he "returned and saw *under the sun, that there was neither bread to the wise, nor riches to men of understanding, nor favor to men of skill.*"

Gentlemen, the ancients endeavored to elevate physic to the dignity of a science, but failed. The moderns, with more success, have endeavored to reduce it to the level of a trade. Till the emoluments of those who chiefly practise it cease to depend upon the quantity of useless drugs they mercilessly inflict upon their deluded patients—till surgeons shall be other than mechanics, and physicians something more than mere puppets of the apothecary—till the terrible system of collusion, which at present prevails under the name of a "good understanding among the different branches of the profession" be exposed, the medical art must continue to be a source of destruction to the many—a butt for the ridicule of the discerning few. The wits of every age and country have amused themselves at the expense of the physician; against his science they have directed all the shafts of their satire; and in the numerous inconsistencies and contradictions of its professors they have found matter for some of their richest scenes. Moliere, so long the terror of the apothecaries of Paris, makes one of his *dramatis personæ* say to another, "Call in a doctor, and if you do not like his physic, I'll soon find you another who will condemn it." Rousseau showed his distrust of the entire faculty, when he said, "Science which instructs, and physic which cures us, are excellent certainly; but science which misleads, and physic which destroys, are equally execrable; teach us how to distinguish them." Equally sceptical and rather more sarcastic in his satire of the profession was Le Sage. "Death," says he, "has two wings; on one are painted war, plague, famine, fire, shipwreck, with all the other miseries that present him, at every instant, with a new prey. On the other wing you behold a crowd of young physicians about to take their degree before him. Death with a demon smile, dubs them doctors, (*leur donne le bonnet*) having first made them swear never in any way to alter the established practice of physic." But it is not our continental neighbors only who have labored to expose medical pretensions. Locke, Smollet, Goldsmith, (all three physicians) held their art in contempt. Swift, Temple, Hume, Adam Smith,—to say nothing of Beron, Hazlitt, and other cotemporaries—were equally severe on its professors. Byron, indeed, anathematised it as "the destructive art of healing;" and when writing to a friend the details of a fever from which he had suffered, he tells him, "I got well by the blessings of barley water, and refusing to see my physician!"—Gentlemen, do you think that all these great men were inferior in observation and reflection, to the herd of doctors and apothecaries who swarm in these times?

But so completely at variance with each other are even the greatest *medical* authorities on every subject in medicine, that I do not know a single disease in which you will find any two of them agreeing. Take the subject of Pulmonary Consumption, for example: "The celebrated Stohl attributed the frequency of consumption to the introduction of the Peruvian bark. The equally celebrated Morton considered the bark an effectual cure. Reid ascribed its frequency to the use of mercury. Brillonet asserted that it is only curable by this mineral. Rush says, that consumption is an inflammatory disease, and should be treated by bleeding, purging, cooling medicines, and starvation. With a greater show of reason, Salvadori maintained the disease to be one of debility, and that it should be treated by tonics, stimulating remedies, and a generous diet. Galen, among the ancients, recommended vinegar as the best preventive of consumption. Dessault, and other modern writers, assert that consumption is often brought on by a common practice of young people taking vinegar to prevent their getting fat. Dr. Beddoes recommended foxglove as a specific in consumption. Dr. Parr, with equal confidence, declared that he found foxglove more injurious in his practice than beneficial! Now, what are we to infer from all this? Not, as some of you might be tempted to believe, that the science is deceptive or incomprehensible throughout, but that its professors to this very hour have neglected to make themselves acquainted with the true principles upon which remedies act, and know as little of the true nature of the diseases whose treatment they so confidently undertake. And what is the daily, the hourly result of this terrible ignorance and uncertainty? In the words of Frank "*thousands are slaughtered in the quiet sick-room.*" "Governments," continues the same physician, "should at once either banish medical men and their art, or they should take proper means that the lives of people may be safer than at present, when they look far less after the practice of this dangerous professsion, *and the murders* committed in it, than after the lowest trades."

"If false facts," says Lord Bacon, "be once on foot, what through neglect of examination, the countenance of antiquity, and the use made of them in discourse, they are scarce ever retracted." The late professor Gregory used often to declare in his class-room, that ninety-nine out of a hundred medical facts were so many medical lies, and that medical doctrines were for the most part little better than stark-staring nonsense;—and this, Gentlemen, we shall have some amusement in proving to you. In the mean time, we may observe, that nothing can more clearly explain the difficulties which beset the student of physic—for who can understand nonsense, and, when clothed in phrases which now admit one sense, now another, what so difficult to refute? "Nothing," says Sir Humphrey Davy, "has so much checked the progress of philosophy, as the confidence of teachers in delivering dogmas as truths, which it would be presumptuous to question. It was this spirit which, for more than ten centuries, made the crude physics of Aristotle the natural philosophy of the whole of Europe. It was this spirit which produced the imprisonment of the elder Bacon and the recantation of Galileo. It *is* this spirit, notwithstanding the example of the second Bacon assisted by his reproof, his genius, and his influence, which has, even in later times, attached men to imaginary systems,—to mere abstracted combinations of words, rather than to the *visible* and *living* world; and which has often induced them to delight more in brilliant dreams than in beautiful and grand realities."

Imposed upon by these abstracted combinations of words, we find it difficult to divest ourselves of the erroneous aud mystical distinctions by which our teachers have too often endeavored to conceal their own ignorance:—for in the "physical sciences,"—I again quote Sir Humphrey Davy, "there are much greater obstacles in overcoming old errors, than in discovering new truths—the mind in the first case being fettered; in the last perfectly free in its progress." "To say that any class of opinions shall not be impunged—that their truth shall not be called in question, is at once to declare that these opinions are infallible, and that their authors cannot err. What can be more egregiously absurd and presumptuous? It is fixing bounds to human knowledge, and saying man cannot learn by experience—that they can never be wiser in future than they are to-day. The vanity and folly of this is sufficiently evinced by the history of religion and philosophy. Great changes have taken place in both, and what our ancestors considered indisputable truths, their posterity discovered to be gross errors. To continue the work of improvement, no dogmas, however plausible, ought to be protected from investigation."

In the early history of every people, we find the priest exercising the functions of the physician.—Looking upon the throes of disease as the workings of devils, his resource was prayer and exorcism; the maniac and epileptic were termed by him *demonicas*, and when a cure was accomplished, the *demon* was said to be cast out.—Even now, the traces of clerical influence on our art are not extinct in England; for though our churchmen have long ceased to arrogate to themselves the exclusive right, as well as the exclusive power of healing, an Archbishop of Canterbury is still permitted, by the laws of his country, to confer degrees in physic! nor does he fail even in these days to avail himself occasionally of his prerogative.[*]

In the course of these Lectures, gentlemen, it shall be my business to prove to you the UNITY OR IDENTITY of all morbid action, and the unity and identity of the source of power of the various agencies by which disease of every kind may be caused or cured.

More than twenty-three centuries have elapsed since Hippocrates distinctly announced the Unity of Morbid Action,—"*Omnium morborum unus et idem modus est.*" The type of ALL DISEASE IS ONE AND IDENTICAL. These are his words, and that is my Case. That is the cause upon which unprejudiced and disinterested posterity will one day pronounce a verdict in my favor, for the evidence I am prepared to adduce in its support will be found to be as perfect a chain of positive and circumstantial proof as ever was offered to human investigation.

The more you can explain and facilitate the attainment of any science the more you will find that science approach perfection.—The true philosopher has always studied to find out relations and *resemblances* in nature, thus simplifying the apparently wonderful; the schools, on the contrary, have as invariably endeavored to draw fine-spun distinctions and *differences*, the more effectually to perplex and make the most simple things difficult of access. "In universities and colleges," says Lord Bacon, "men's studies are almost confined to certain authors, from which if any dissenteth or propoundeth matter of redargution, it is enough to make him be thought a person turbulent." Any exposition of the singleness of principle which pervades a particular science will be sure to meet the censure of schools and colleges; nor will their disciples always forgive you for making that easy which they themselves after years of study, have declared to be incomprehensible.

The most perfect system has ever been allowed to be that which can reconcile and bring together the greatest number of facts that come within the sphere of the subject of it.

IN THE STATE OF HEALTH,

an equal and medium temperature prevails throughout the frame. The voluntary and other muscles obey with the requisite alacrity the several necessities that call them into action. The mind neither sinks nor rises but upon great emergencies; the respiration, easy and continuous, requires no hurried effort,—no lengthened sigh The heart is equal in its beats, and not easily disturbed; the appetite moderate and uniform. At their appointed *period*, the various secreting organs perform their office. The structures of the body, so far as bulk is concerned, remain to appearance, though not in reality, unchanged; their possessor being neither encumbered with obesity, nor wasted to a shadow. His sensorium is neither painfully acute nor morbidly apathetic; he preserves in this instance, as in every other a happy moderation. His sleep is tranquil, dreamless.

If we analyze these various phenomena, we shall find that they all consist in a series of alternate motions,—motions, for the fulfilment of which various *periods* of time are requisite; some being diurnal, some recurring in a greater or less number of hours,—while others exhibit a minutary or momentary succession. At morn, man rises to his labor; at night, he returns to the repose of sleep; again he wakes and labors—again at the appointed *period* he "steeps his senses in forgetfulness" once more. His lungs now inspire air, now expel it—his heart successively contracts and dilates—his blood brightens into crimson in the arterial circle of its vessels—again to darken and assume the hue of modena in the veins. The female partner of his lot,—she who shares with him the succession of petty joys and sorrows, hopes and fears, which make up the day-dream of life, has yet another revolution, the *Catamenial;* and *Parturition,* or the process by which she brings the mutual offspring into the world, is a series of *periodic* pains and remissions.

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[*] The present Sir Charles Mansfield Clark, Bart., &c., after practising for many years as a London apothecary and accoucher, was dubbed Doctor of *Medicine* by the late Archbishop Manners Sutton. I know not if that be the reason he is sometimes called by his lady-patients the *divine* doctor.

Every atom of the material body is constantly undergoing a revolution or alternation;—liquid or aeriform one hour, it becomes solid the next—again to pass into the liquid or aeriform state; and ever and anon varying its properties, colors, and combinations, as, in brief, but regular PERIODIC succession it assumes the nature of every organ, tissue, and secretion entering into, or producing from, the corporeal frame. "It is every thing by turns, and nothing long."

The phenomena of the human body, like every other phenomena in nature have all a three-fold relation,—a relation to MATTER, SPACE, TIME, and there is another word—MOTION, which may be said to bring all three to a unity; for without matter and space, there can be no motion, and motion being either quick or slow, must also express time or *period.*

Moreover, there can be no *motion* in matter without *change of temperature,* and no change of temperature without *motion in matter.* This is so indisputable an axiom in physics, that Bacon and others supposed motion and change of temperature to be one and the same.

The powers by which the corporeal motions are influenced, are the same that influence the motions of every kind of matter, namely, the electric, mechanical, and chemical forces, and the force of gravitation. When rightly considered, the whole of these powers resolve themselves into *attraction* and *repulsion.* It is by *attraction* that the fluid matter of the blood first assumes the solid consistence of an organ; again to pass by *repulsion* into the fluidity of secretion. *From* the earth and *to* the earth, the matter composing our bodies comes and goes many times even in the brief space of our mortal existence. In this, the human system resembles a great city, the inhabitants of which, in the course of years, are constantly changing, while the same city, like the body, betrays no other outward appearance of change than what naturally belongs to the *periods* of its rise, progress, maturity, or tendency to decay.

The last, and one of the most important of the revolutions of the healthy state, is

SLEEP.

Philosophers of all ages have made this an object of their most anxious study, its relation to death perhaps being their chief inducement to do so. "Half our days," says Sir Thomas Browne, "we pass in the shadow of the earth, and sleep, the brother of death, extracteth a third part of our lives." In the state of perfect sleep, the pupil of the eye will not contract on the approach of light—the skin has no feeling—the ear no sense of hearing—the taste and smell are not to be roused by any of the ordinary stimuli. What is this (figuratively speaking) but a periodic *half*-death—speaking truly, but a periodic palsy or cessation of internal motion of the nerves by which we maintain a consciousness of existence, and perceive our relationship to the world around us? Broken sleep consists either in brief remissions of the whole sleeping state, or in a wakefulness of one or more of the five senses. There are individuals, for example, who always sleep with their eyes open, and who should see you, were you to enter their chamber with the most noisless tread. These tell you they are always half awake. In the condition of body termed *nightmare,* there is a consciousness of existence with a wakefulness of the nerves of sight or feeling; but with a total inability to influence the voluntary muscles by any effort of the will. The subject of it can neither sleep nor turn himself.—The dreamer, portions of whose brain think, and therefore act or move, is partially awake. The *somnambulist* and *sleep talker,* are dreamers, who, having portions of the brain in a state of action, and others torpid, perform exploits of deed or word, that bring you a mind of the maniac and the drunkard, whose powers of judging are defective. A man may be entirely awake with the exception of a single member; and this we still refer to a torpid state of some portion of the brain. Such a man will tell you that his arm or leg is asleep or dead. But, as this is a soporific subject, and may have a soporific influence on some of you, I may as well wake you up with an anecdote a brother medical officer of the army once told me of himself: While serving in the East Indies, Dr. C—— one night awoke, or I should rather say half awoke suddenly, when his hand at the instant came in contact with a cold animal body. His fears magnifying this into a cobra capel, he called out most lustily, "a snake, a snake." But before his drowsy domestics had time to appear, he found he had mistaken his own sleeping arm for this most unwelcome of oriental intruders!

Gentlemen, the human body in health is never *asleep* throughout, for when *volition* is paralysed—when we are every thing but dead to all that connects us with the external world, the heart still continues to beat, the lungs perform their office, and the other internal organs, over which volition has no control, keep on their usual harmony of motion—in other words, the digestion of the food, the circulation of the blood, and the other lesser motions of *organic* life, proceed as in the waking state.

DISEASE.

Till the hour of sickness comes, how few non-medical persons ever think of a subject which ought to be of interest to all. The same men who discuss with becoming gravity the artificial inflections of a Greek or Latin verb, neglect to inform themselves of the natural laws that govern the motions of their own bodies! No wonder that the world should be so long kept in darkness on medicine and its mode of action,—no wonder that even educated persons should still know so little of the proper study of mankind—MAN! In the throes of disease, the early priests, as I have already told you, imagined they detected the workings of demons. The medical theorists, on the contrary, attributed them to morbid ingredients in the blood or bowels. One age bowed the knee to an "acrimony" or "putridity;" another acknowledged no cause but a "crudity," or a "humor." The moderns hold the notion that a mysterious process, which they term "inflammation," is the head and front of all offending. How absurd each and all of these doctrines, will appear in the sequel! Disease, Gentlemen, is neither a devil to "cast out," an acrimony or crudity to be expelled, nor any fanciful chemical goblin to be chemically neutralized—neither is the state erroneously termed inflammation, so commonly the *cause* as a *coincident part* of general disorder. Disease is an error of action—a greater or less variation in the motion, rest, and revolutions of the different parts of the body—reducible, like the revolutions of Health, into a systematic series of periodic alternations, in the course of which the matter of a structure occasionally by its atomic changes alters its natural character and chemical relations, so much so in some cases, as to become even completely decomposed and disorganised. Whatever be the cause or causes of corporeal aberration, in obedience to the law of all matter, the first effects are change of *motion* and change of *temperature*. The patient accordingly has a feeling of *heat* or *cold*. His muscular *motions*, less under the control of their respective influences, become tremulous, spasmodic; or wearied, palsied, the functions of particular muscles cease. The breathing is hurried on slight exertion, or it is maintained slowly and at intervals, and with a long occasional inspiration and expiration—familiar to you all in the act of sighing. The heart is quick, palpitating; or languid, or remittent in its beats; the appetite craving, capricious, or lost. The secretions are either hurried and increased in quantity, or sluggish, or suppressed. The body shows a partial or general waste; or becomes in part or in whole preternaturally tumid and bloated. Alive to the slightest stimulus, the patient is easily impassioned or depressed; his mind, comprehending in its various relations every shade of unreasonable sadness or gaity, prodigality or cupidity, vaccillation or pertinacity, suspicious caution or too confident security; with every color of imagination, from highly intellectual conception to the dream-like vagaries and reveries of hallucination. His sensations are perceptibly diminished or increased. Light and sound, for example, confuse or distract him; like the soft Sybarite, a rose leaf ruffles him. With the smallest increase in the medium temperature of the atmosphere, he becomes hot and uncomfortable, and the slightest breeze shivers and discomposes him; or, as you may sometimes observe in the case of extreme age and idiotcy, he becomes equally insensible to excess of light, sound, heat, and cold.

CAUSES OF DISEASE.

What are the agencies that give rise to

"——— Maladies
Of ghastly spasms, or racking tortures, qualms,
Of heart-sick agony, all *feverish* kinds,
Convulsions, epilepsies, fierce catarrhs,
Intestine stone, and ulcer, colic pangs,
Demoniac phrenzy, moping melancholy
And moon-struck madness, pining atrophy,
Marasmus, and wide-wasting pestilence,
Dropses and asthmas, and joint-racking rheums?"

MILTON.

Gentlemen, the *Causes* of all these various diseases—*Various* in name, place, and degree—*One* only in their real nature—may be found either in a *deprivation* or *wrong adaptation* of the identical forces which continue life, in health—the same natural agencies, in a word, by which every motion or event is produced throughout the universe. They comprise, therefore, every thing that connects us directly or indirectly, with the external world; and most, if not all of them, act upon us, in the first place, through the different modifications of nervous perception. The causes of disease, then, never originate in any one organ of the body—except in so far as that organ may be predisposed by an inherent weakness of the attractive power of the atoms of its parts to receive grave impressions from outward agencies that affect the more stable portions of the same body in a slighter manner.

To return to the *causes* of disease,—are they not infinite? The earth and its emanations—the air and its electrical conditions—the degrees of temperature, dryness, and moisture of both—the nature and extent of our food and drink—the passions by which we are agitated, with all the other changes and chances of our social and individual position; these are the elements to which we must look, not only for the causes of disorders, but for the causes of health itself.

We have already analyzed the Life of Health;—we have seen that it consists in a *periodic* alternation of harmonious movements, some long, some short,—greater and lesser movements, otherwise *fits*; in Shakspeare's language, Life is a "*fitful fever.*" If so, what can the morbid modifications of that Life be, but modifications of Fitful or Intermittent Fever? "All diseases," says Hippocrates," "resemble each other in their form, invasion, march, and decline." "The type of all diseases," he adds, "is one and the same." What, then, is that type? If we succeed in proving to you that toothache, asthma, epilepsy, gout, mania, and apoplexy, all come on in *fits;* that all have febrile chills or heats; that *intermissions* or periods of immunity from suffering, more or less complete, are common to each; and that every one of these supposed different diseases may, moreover, be cured by any one of the agents most generally successful in the treatment of Intermittent Fever, popularly termed Ague; to what other conclusion can we possibly come, but that this same Ague is the type which pervades, and the bond which associates together every one of these variously named diseases? If, in the course of these Lectures, we further prove that what are called "inflammations" also come on in fits; that the subjects of them have equally their periods of immunity from pain, and that these yield with equal readiness to the same remedial means;—who can be so unreasonable as to doubt or dispute that Ague is the model or likeness—the *type of all disease!*

Use of Arsenic in Diseases of the Skin.

By John E. Erichsen, Esq.

There is probably no substance in the Materia Medica about which a greater discrepancy of opinion has arisen than arsenic. By some its uses have been highly extolled and used too indiscriminately; by others it has been looked upon only as a last resource, and used when every other remedy has failed.

The arsenious acid, in an uncombined state, is but very seldom employed in this country, although with Biett, and some other continental physicians, it is a favorite remedy in psoriasis inveterata, and other very obstinate cutaneous affections. Its dose, in the form of the "Asiatic pill," varies from the sixteenth up to the fourth of a grain twice a day. The comparatively large quantity of arsenious acid that is required in an uncombined state to produce a beneficial action on the skin, ought, in my opinion, to militate strongly against its employment in this form. The minimum dose of arsenious acid recommended by most writers on the diseases of the skin is one-sixteenth of a grain; now this is equal to the quantity contained in seven and a half minims, almost the maximum dose of the solution of the arsenite of potassa, and certainly too large a quantity of this preparation for us to be justified in commencing with. This difference in effect is probably owing to the greater readiness with which the arsenious acid when presented in solution, must be taken up by any surface, and carried into the general circulation.

Mr. Donavan lays great stress upon the small quantity of arsenic, and of the other elements, that, in his preparation, sometimes effect a cure; but in this I do not think it presents anything peculiar or more remarkable, than is constantly seen in Fowler's solution, and the other preparations of arsenic.

The *modus operandi* of the arsenical preparation, as of most other medicinal agents, is unknown to us. We are only acquainted with their secondary effects, which manifest themselves most unequivocally on the digestive, nervous, and integumentary systems; on all of which they act as excitant or stimulating tonics.

From a careful examination of many cases of cutaneous disease in which this mineral had been employed, I am enabled to state that nothing is gained by carrying it beyond a certain point, as far as the affection of the skin is concerned, and that by so doing, much mischief, perhaps of an irremediable nature, may be inflicted on the patient: that it is not a remedy that can with safety be *pushed*, to use a common phrase, but that all the good that will result from its employment can be accomplished by a careful and guarded administration of it, and by its being intermitted on the first appearance of any symptom of local or general irritation.—*Med. Gaz. May* 12*th*, 1843.

Sir B. C. Brodie in a Lecture delivered in the Theatre of St. George's Hospital, in the session 1843-44, in speaking of the swelled tongue, in which small tumors and abscesses are sometimes formed, says,—

"The remedy best adapted for these cases is a solution of arsenic. Give the patient five minims three times daily, in a draught, gradually increasing the dose to ten minims. It should be taken in full doses, so that it may begin to produce some of its poisonous effects on the system. When it begins to act as a poison it will show itself in various ways. Sometimes there is a sense of heat, a burning pain in the rectum; sometimes griping, purging, and sickness, and nervous tremblings. A patient who is taking arsenic, especially in pretty large doses, ought to be very carefully watched. At first you may see him every two or three days, and then every day; and as soon as the arsenic begins to operate as a poison, leave it off. When this effect is produced the disease of the tongue generally gets well, but at any rate leave off the arsenic, and the poisoning will not go too far; it will do no harm. If, after a time, you find that the disease is relieved, but not entirely cured, you may try another course of arsenic. Perhaps it may take a considerable time to get the tongue quite well. Sarsaparilla, with the bichloride of mercury, may be given at one time; and at another, arsenic. You cannot give either of these remedies for ever, and indeed the arsenic can only be given for a very limited period; but it is astonishing what bad tongues of this description I have seen get well under these modes of treatment, especially under the use of arsenic.

* * *

ON PHTHISIS.—By Dr. Graves, Dublin.

[In the following passage, Dr. Graves explains his views on the pathology of tubercle :]—

"I look on tubercular development and consumption as the consequences of that particular state of constitution, which occasions what is falsely termed *tubercular inflammation*, a state of constitution in which we have three distinct processes, attended by corresponding morbid changes, each different in itself, but depending on one common cause. Every form of consumption, which has hitherto come under our notice, is referable to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, and parasitic productions, among which I class tubercles, whether occurring in the lungs, brain, or liver, whether they exist in a minute or granular form, or in large, soft, and yellow masses, or in the state of tubercular infiltration. I look on tubercles in this light, and not as the consequence of inflammation, nor do I consider that it has been proved that tubercular development is the cause of phthisis.

Dr. Graves contends, that in all cases of phthisis, 'the pectoral symptoms, of whatever nature they may be, are caused by *scrofulous inflammation*,' by which we presume that he means, inflammation as it occurs in individuals of a scrofulous diathesis, and he proceeds to compare the progress of ulcerations of the lungs with that of external scrofulous abscesses. There is, he observes, the same slowness, the same insidious latency, the same gradual solidification and gradual softening; the puriform fluid secreted is similar in character, while there is the analogous occurrence of burrowing ulcers and fistulous openings with close approximation in the form of thin parieties, and difficulty of healing in each; and at the same time constitutional symptoms identical in nature; hectic flushings and sweats, diarrhœa, emaciation, &c., equally accompany phthisical suppuration of the lungs and scrofulous inflammation of the joints or other external parts. With these views, therefore, we are not surprised to find Dr. Graves entertaining the opinion that tubercle, though a most frequent accompaniment of phthisis, is neither the essential cause of that disease nor a necessary product. Scrofulous inflammation is with him the *fons ct origo*, the real and efficient cause of phthisis, whether tubercle be generated in the course of the diseased action or no, and thus we have scrofulous pneumonia and scrofulous bronchitis equally productive of phthisis without the presence of one single tubercle or spot of deposition of tubercular matter, either in the pulmonary tissue or on the bronchial membrane. In the latter case, scrofulous bronchitis it is urged by Dr. Graves, that the accompanying fever presents all the material phenomena of phthisis; there is the same emaciation, frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted, although not mixed as in cases of true phthisis with broken-down tubercles.

We may therefore, have tubercles without either the pneumonia or the bronchitis; and we may have scrofulous pneumonia often ending in slow burrowing suppuration, and proving fatal without any tubercles being formed. In like manner, a person may die of scrofulous bronchitis without the occurrence of either tubercles or pneumonia. Of these three effects of scrofula, it may be remarked, that, owing to their cause and origin being the same, they are most frequently found in combination. The same diathesis which produces one may give rise to the others; hence the frequency of their association; hence it is that they generally occur together.—*Brit. and For. Med. Rev., July,* 1843.

Dr. Graves is one of the most talented men of the age, and has had for a long period an extensive hospital and private practice,—yet it would be difficult to find an ordinary physician whose notions are so erroneous on the pathology of tubercle or of bronchitis. We are told first, that tubercular development is falsely termed *tubercular inflammation,*—which is very true, but notwithstanding he repeats this affirmation, his head is so full of the *acute, sub-acute* and *chronic* inflammations of the schools, he soon forgets himself and "contends, that in all cases of phthisis, the pectoral symptoms, of whatever nature they may be, are caused by *scrofulous inflammation.*" We are also told, that tubercle is a parasitic production, the consequence of an inferior degree of animalization, and yet we are told tubercles of the lungs have the same character in all respects, as those seen on the external surface of the body, with exalted animalization, accompanied with irregular fever, and terminating in scrofulous abscesses and ulceration, &c., and which every tyro knows to be diseased lymphatic glands.

This notion of the parasitic origin of tubercles, is the old astrological theory which was taught more than 2000 years ago; and notwithstanding its absurdity, the professors of our medical colleges will continue to teach it as long as such trash is of any value in their market.

If there is any thing any where to be found more crude and contradictory than the effusions we have noticed of Professor Graves, it may be found in the crudities with which he confounds phthisis with bronchitis and pneumonia. The regular and vascular organization of tubercles, and the poverty of the secretions which are conveyed to the heart by the lymphatic system in phthisis, should have long since directed him to the true character of these bodies, without any knowledge of the scientific symptoms which point with an unerring hand to the disease in this system. The Doctor, however, as we have before said, is a man of talents, but knows nothing of these symptoms, or of the difference between diseases of the serous and of the mucous membranes, and his treatment of these affections is consequently the forebodings of death, or a mere repetition of the old astrological absurdities of the schools.

COROLLARIES.

1. "During health, the system is animated by a *spiritual, self moved, vital power,* which preserves it in harmonious order."

2. "It is only by means of the *spiritual* influence of the morbific agent, that our *spiritual vital power,* can be diseased, and in like manner, only by the *spiritual* (dynamic) operation of medicine that health can be restored."

3. "The homœopathic healing art developes for its purpose the IMMATERIAL (DYNAMIC) VIRTUES OF MEDICINAL SUBSTANCES, and to a degree previously unheard of, by means of a *peculiar* and HITHERTO UNTRIED PROCESS. By this process it is that they become penetrating, operative, and remedial, even those that, in a *natural or crude state,* betrayed not the *least medicinal power* upon the human system."—HAHNEMANN.

Polemical Powers of Hahnemann.

FROM THE

BRITISH JOURNAL OF HOMŒOPATHY.

Introduction to the proving of Arsenic.

BY SAMUEL HAHNEMANN.

Overwhelming recollections arrest my mind at the mention of Arsenic.

When He, the All-bountiful, created iron, He left to the free choice of the children of men to fashion it either into the deadly dagger, or the peaceful ploughshare; to slay or to support their race. Ah, how much happier for them did they employ all His gifts for good! So would they fulfil His will and the end of their being. We cannot charge an all-loving Providence with the crimes that men have committed in having abused the administration of terribly powerful drugs, by giving them in enormous doses, and in improper cases, confiding in some frivolous conceit or miserable authority, without having any proving or grounds of choice.

No sooner does a careful prover of the action of medicines appear, than all are in commotion against him as an enemy of their ease; and they do not shrink from meeting him with the most unblushing calumnies!

The ordinary system of medicine administers, *frequently and in large doses*, the strongest of drugs, such as arsenic, nitrate of silver, corrosive sublimate, wolf's-bane, deadly nightshade, iodine, foxglove, opium, henbane, &c. Stronger substances Homœopathy cannot employ, for none are stronger. When physicians of the prevailing school employ them, they evidently vie with each other who shall prescribe the largest doses, and boast of the monstrous quantities they have administered. For this they receive the approbation and applause of their brethren. Let Homœopathy, however, make use of the same substances, not at random, as in the ordinary practice, but, after careful investigation, in those cases only for which they are exactly suited and in the smallest possible quantities, and it is immediately charged with poisoning! How partial, how unjust, how calumnious is this, in those who pass for honest and upright men!

Does Homœopathy now enter into a fuller explanation? Does it condemn (as from conviction it must) the monstrous doses administered in the prevailing practice, and does it contend that infinitely smaller quantities should be given—that, where the ordinary physician prescribes a tenth, a half, a whole grain, and upwards, a quadrillionth, a sextillionth, a decillionth of a grain is perfectly sufficient? On this, the same prevailing school, which decried the homœopathic healing art as a system of poisoning, laughs outright, pronounces it to be mere child's play, and declares itself thoroughly convinced (convinced without having tried it?) that such a *small quantity* can have no earthly effect, —*is in fact as good as nothing at all.* Thus it is not ashamed to blow hot and cold with the same breath, to accuse exactly the same thing of being inert and ridiculously small, which it had just declaimed against as rank poisoning, all the time praising to the skies its own monstrous and murderous doses of the same substances. Is not this the most miserable and gross inconsistency it is possible to conceive, wilfully perpetrated for the purpose of doing shameful injustice to a system, which cannot be proved to be deficient in truth, consistency, practical utility, the tenderest caution, and most unwearied circumspection, in the choice and administration of its remedies?

When not very long since a celebrated physician* spoke of pounds of opium which were consumed monthly in his hospital, where even the nurses were permitted to give as much of it as they thought proper to the patients—mark now, opium, which in the ordinary practice has consigned so many thousands to the grave—yet this man lost none of the esteem in which he was held, because he belonged to the prevailing guild, in which every thing is allowable, be it as hurtful and dangerous as it may. And when a few years ago, in one of the most enlightened cities of Europe,† almost every practitioner, from the dignified doctor down to the barber's apprentice, prescribed arsenic as a fashionable medicine in almost every disease, and that so frequently, and in such immense doses, that the detriment to human health was quite palpable; yet this was most honorable practice, though not one of those who employed it was acquainted with the peculiar mode of action of this metallic oxyde (consequently must have been ignorant of the cases of disease when its employment was indicated,) and they all continued prescribing it in repeated doses, *any one of which, had it been sufficiently diluted and potentialized,‡ was quite sufficient to cure all the diseases in the habitable globe* in which this remedy was indicated. Which, then, of these opposite methods of practice best deserves the flattering appellation of "system of poisoning,"—the ordinary method, which assails the poor patient (who, by the way, often requires quite another medicine) with the tenth of a grain of arsenic, or the homœopathic method, which administers not even a drop of tincture of rhubarb, without having previously instituted a most rigid inquiry to ascertain whether or not rhubarb be the best adapted, the only appropriate remedy—the homœopathic method which has discovered, by indefatigable and oft-repeated trials, that it is very rarely necessary to administer more than a fractional part of a decillionth of a grain of arsenic, and that only in cases for which the most careful proving has shewn the remedy adapted? To which, then, of these two methods, does the honorable title of "inconsiderate, rash system of poisoning," best apply?

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* Marcus, in Bamburg.

† In what a deep state of ignorance must not the medical science of our quarter of the globe be sunk, when these things occurred in such a city as Berlin, which yet, in all other kinds of human knowledge, has scarcely an equal!

‡ Potentialized—that is the word—the old Fox would not say *magnetized.* Ed.

"A tenth of a grain," I hear some remark, "is the very smallest quantity we are in the habit of giving; were we to prescribe less, we would render ourselves ridiculous."

Indeed! So a tenth of a grain produces sometimes dangerous results, but the observances of your clique prohibit you from giving less—a great deal less! Is this not a gross insult to common sense? Are the observances of your fraternity introduced among a set of senseless slaves, or among men who are endowed with liberty of thought and understanding? If the latter be the case, what should hinder you from giving a smaller quantity where a large quantity proves injurious? Is it obstinacy? scholastic dogmatism? or what other prison of the mind?

Novelty is, indeed, a capital crime in the orthodox school, which, settled down upon her lees, enslaves the reason to the tyranny of antiquated custom.

But why should a physician who, from his profession, ought to be learned, thinking,—independent,—a controller of nature—be bound down by such a pitiful rule; and above all, what should prevent him from rendering a dangerous dose mild by diminution?

What should prevent him, if experience teach him that one thousandth of a grain is still too strong, from giving one hundredth-thousandth, or a millionth of a grain? And were he to find that this quantity in many instances was productive of evil consequences, *since every thing in medicine is learned by investigation and experience* (seeing that it is but an experimental science,) what should hinder him from diminishing the millionth to a billionth? And if this were in many cases too powerful, why should he not still further diminish it to a quadrillionth of a grain, or if necessary, still less!

Methinks I hear vulgar stolidity croak from out the quagmire of its thousand-year-old prejudices: "Ha! ha! ha! a quadrillionth! Why, that's nothing at all!

How so? The smallest possible portion of a substance, is it not an integral part of the whole? Were it to be divided and re-divided even to the limits of infinity, would not there still remain *something*—something substantial—a part of the whole, let it be ever so minute? What man in his senses would deny it?

And if this (a quadrillionth, quintillionth, octillionth, decillionth) be in reality an integral part if the divided substance, which no man in his senses can doubt, why should this minute portion, as it is certainly *something*, be *inactive*, while the whole acted with such violence? But *what* and *how much* this minute portion can effect, profoundly speculating reason, or lack thereof, can never tell: experience alone must determine, against whose facts there is no appeal. Experience alone can decide whether this small portion be too weak to have any effect on diseases, too weak to relieve and restore to health the morbid condition in which it is indicated. No dogmatical assertion, issuing from the closet of the theorist, can determine this point; experience alone, the only competent arbiter in such a case, can do this.

Experience has already decided the matter, and is seen to do so daily by every unprejudiced person.

* * *

Numbering---its importance to the Physician.

The virtues of *simple arithmetic*—which, when occupied in the deduction of medical facts, is, by general consent, called *numbering*—have no operation more important than that of calculating the efficacy of *remedies*, for *numbering* is the only method by which their qualities can be satisfactorily proved, though almost wholly neglected by us, very many medicines which are in daily use being indebted for their character simply to hearsay, and not to that of effectual test. Accordingly, the most diverse opinions prevail, even among intelligent practitioners, with regard to the pretensions of numerous presumed therapeutic agents. One, for example, says that he has the greatest confidence in the alterative virtues of sarsaparilla; another, with equal opportunities of observation, declares his belief that its qualities are precisely equivalent to those of chopped hay. Some experimenters will affirm that iodide of potassium, given in doses of more than eight or ten grains, will act as an irritant, producing diarrhœa, vomiting, and other disagreeable effects; while certain inquirers, on the other hand, assert that six drachms of that substance may be given daily, in divided doses, for many weeks, and even half an ounce of it at a single dose, without inconvenience to the patient.

It is quite clear that—the constitution and condition of the patients being analagous—one or other of these statements is egregiously erroneous, although both profess to be founded on personal observation. It is needless to multiply instances. There are, in daily use, a great number of alleged medicinal substances, with reference to which it is disputed whether they have any operation at all, or admitting that they have some, what that operation is, and under what circumstances it occurs. But to ascertain whether a given substance be active or inert, in relation to the animal economy, and—if it have an appreciable action,—to determine what that action is, are points of inquiry within the compass of every individual who is endowed with common sense, and willing to incur the trouble of the investigation. Hence the fact that if any uncertainty exist on such questions, it is discreditable to medical science, their solution being mere matters of arithmetic. But ciphering seems as irksome to doctors as to schoolboys, the greater part of us preferring to exercise our faith or our fancy to using our tablets. The expression " cæteris paribus" is common enough in medical language, but that distribution of objects which is necessary to render the phrase applicable, is lamentably rare in medical inquiries. In no other department of human knowledge are to be found such discrepancies of opinion as to what ought not to be matter of opinion at all, but matter of fact; nor is it surprising that sound-headed men of other professions should often turn from medicine with incredulity and contempt, as from a science that is without principles, and an art without efficacy.

The numerical method may be applied to therapeutic operations with greater facility than to most other branches of medical inquiry, because we have here the advantage of knowing the nature and proportion of at least one of the agents that are concerned in the actions under investigation, namely, the medicine itself; whereas in many questions in vital statistics we have to calculate effects arising from causes whose nature and intensity—nay, perhaps, their very existence—are all wholly unknown. When a medicine is brought forward laying claim to the power of producing a certain action in the living system, or of curing a given disease specifically, no matter by what process, nothing can be plainer than the *method* of ascertaining whether the allegation be well founded. Simply take care that genuine samples and similar doses of the medicine are employed, that all the individuals to whom it is exhibited are, as nearly as possible, circumstanced alike, and that the number of patients is sufficient, and then the conclusion that is educed by the accurate use of numbers may be considered to be as certain as any that can be obtained in a science that is not purely mathematical. Medicine cannot attain the exactness of astronomy or optics; but there seems to be no reason why it should not acquire equal certainty with chemistry, and other branches of experimental science.

If the efficacy of every new remedy had been thus tested as it arose, how often would the profession have been spared the humiliation of reposing unbounded confidence in agents which were really either inert or pernicious. Iceland liverwort would not then simply have settled down into a very respectable article of diet, after having promised to scare consumption from the face of the earth, nor would mercury have poisoned those myriads of persons who have fallen victims to an indiscriminating belief in its specific powers.

It is impossible, day after day, to observe the mass of isolated facts that are thrown before the profession relating to medicine, without lamenting the neglect to which we have drawn attention—both on this and many other occasions—and continuing to press the necessity of a remedy for the evil, until the proper remedy is adopted.

These observations of the editor of the London Lancet are not only of the utmost importance to the physician and his patients, but, like his observations and suggestions given in the last number of this work (p.18.) on the probably extensive utility of the use in chronic diseases of " a very moderate galvanic influence, sustained for a length of time," should be printed in letters of gold, and suspended in a conspicuous place in the office of every physician.

The diagnosis of diseases must, however, be first perfected before the profession can advance much in the choice of remedies, and may not we, who have practised physic nearly 40 years, and these arithmetical numbers more than a quarter of a century, now venture to suggest to the editor of the Lancet, the importance of copying into his journal, from the last number of this work, and spreading far and wide, the *mathematical* symptoms of tubercular disease of the organs and limbs, disclosed by the practice of the arithmetical system which he now recommends to the attention of the profession? No! such a suggestion would be perfectly useless, for it would be necessary for these symptoms to undergo a metamorphosis, and appear in a new dress under the garb of discoveries of some English physician, before we could have the least hope of seeing them published in that or any other Medical

Journal of that kingdom, or in the semi-English journals of the medical schools of this country. A universal or general knowledge of these symptoms, with the remedies naturally suggested by them, would save myriads of our race every year from a premature grave, who are now annually poisoned or quacked to death every year with the common remedies and treatment of the schools. But an incubus has hung its deadly weight upon every effort to improve the practice of medicine more than two thousand years, and the victims of every age and condition must submit to their fate.

Connection of Respiration with Sensibility.

NEW EXPLANATION OF AN OLD RIDDLE.

To to the Editor of The Lancet.

SIR,—It is always pleasing to throw light on the result of an experiment whioh is out of the usual course of explicable phenomena. One of such, I believe, is the following, for I never met with any explanation of it. Its discovery has generally been ascribed to an American naval officer, but whatever its origin, it has the same interest to the physiologist.

When each of four persons standing at the corners of a long table, places two fingers of one hand under the shoulders and hips of a person lying on the table, if at a given signal they all five draw their breath (inspire) quickly, the four can raise the fifth person, who will appear to them to be much lighter, or, as it has been described, "as light as a feather." They must all inspire at the same time, and without irregularity, or laughing, &c., on which account it may have to be tried twice or thrice before the remarkable result is obtained.

How can we explain it? A medical friend suggested to me that he thought the act of inspiration changed the position of the poles of a person, and thus altered the weights and to support his view stated that iron weights, after acquiring magnetic polarity from continuing long in one position, are lighter when turned over on their face. But this explanation, ingenious as it certainly is, supposes a change of weight in the person operated upon, a thing, which of course, cannot be. Indeed, there must be an increase in the weight equal to that of the air so inspired. I will proceed, therefore, to show what I think is the real cause of the person raised appearing to be so light.

1. Pressing my hand hard on the seat of a weighing machine, I kept up that pressure as equally as I could, and another person observing the index, the result was, that when I inspired the instrument indicated a greater pressure in the proportion nearly of eight to seven, so that at each inspiration the index moved forward considerably.

2. I placed a bucket full of water on the floor, and carried a wire round its handle, and thence around my finger, making a loop at the middle of the second phalanx of the index of the right hand. I then found that the pressure of the wire, when I attempted to raise the bucket by it, caused (of course) considerable pain, but that if I inspired at the same time the pain was diminished, and I could raise the weight with less difficulty.

Now, here are three things to be considered; the amount of weight raised, the sensation experienced in raising this and other weights (and by which I presume we form a judgment of the weights of bodies generally, or of resistances) and the pain caused by great pressure on the part from which the weight is hung. My first experiment proves the influence of inspiration in obscuring the judgment of weight, inasmuch as the pressure appeared to be always the same; yet, during inspiration, the index showed a change. In the second it may easily be seen how the act of inspiring blunts sensibility to pain.

The explanation that I would attempt to give, therefore, of the lightness observed in the American experiment is, that the act of simultaneous inspiration which tends to stiffen the body of the person lying down, and render it better adapted for raising, also impairs the judgment of those who raise him, and blunts that unpleasant sensation in the fingers, &c., which might prevent them from raising that weight in the ordinary way. But the influence of inspiration on sensation is not confined to these efforts, or operations, only. The scream of affright is an inspiration, and the scream itself is a sound uttered during that act, and not a vocal sound produced, in the usual manner, by expiration. And I think there can be no doubt that this sudden drawing of the breath, as in the experiments cited above, is a means of dulling sensibility against the fatal shock which a fright might otherwise occasion. The sudden application of cold to the surface of the body in the shower bath, is attended with a sudden gasp, a modified scream, a rapid inspiration, and its effect, I have reason to believe, is to deaden sensibility.

If we consider the function of respiration in connection with sensibility, perhaps of every kind, we shall find it naturally divided into three periods,—inspiration, expiration, and an interval, the interval being, more properly, the time for sensibility,—inspiration taking up a certain time, expiration a time somewhat shorter, and the interval varying in duration, according to the wants of the system. All these periods are liable to alter, and we may see this in many states of the body. In the hurry, and bustle, and straining, of what is well called "action," no interval is allowed in the breathing, no one attends to his sensations, and the result of such increased respiration and muscular exertion is, quickened pulse, augmented heat of body, &c. But in an opposite condition of our system, when the mind, content on a subject that absorbs every thought and feeling, demands a long intereal, as in amatory cases, the termination of that interval is marked, mediately, by a sigh, a form of expiration following a fully drawn inspiration. Hoping that these observations, hastily made, will meet, in your valuable Journal, the eye of some reader who has paid attention to the subject, I remain, Sir, your obedient servant,

Salter Livesay, M. D., R. N.
Belvedere-road, Lambeth, Dec. 1843.
London Lancet.

The cold water dash, and replex action.

Hemorrhage from the lungs, nose, and uterus, is frequently arrested in an instant by repeated dashes of cold water. Syncope, infantile *fainting* fits—*Coma*, from narcotic poisons—*Asphyxia*—*Apoplexy*—and *Puerperal* convulsions, are arrested and quickly subdued in the same manner. These extraordinary effects of the sudden alternation of cold upon a warm surface is purely mechanical, and is the consequence of the sudden and powerful contraction of the over-expanded blood vessels. A subdued expansion of these vessels necessarily follows this and the succeeding contractions, according to the laws of the magnetic forces which produce motion, and these are precisely the effects that are required in these cases of hermorrhage and suspended animation. With such means and with such a powerful remedy always at hand, many a fond mother has by mere intuition, saved her darling child.

When in any of these cases the body has, from any cause, become too cold to obtain these results, heat should be first applied to the surface, and then the cold dash, and we should remember that whatever we do in such cases should be done quickly.

In cases of inaction of the bladder in consequence of its great expansion, from excessive accumulations of urine, the cold dash upon the feet, legs and thighs, makes the bladder contract with great force, when the urine instantly flows in a large stream.

Magnetic Poles, and Heat and Cold.

The greatest heat known to us is produced by the action of the magnetic poles upon each other. Sir H. Davey decomposed the alkalies and many other substances that had resisted every other means of reduction, by bringing them in contact with the opposite poles of a powerful magnetic battery.

The greatest cold on the earth is known to be in the immediate vicinity of the magnetic poles in the arctic and antarctic circles, and it follows then, that when *active* and powerful magnetic poles are brought near to each other, they produce the greatest heat known to us, and that at their greatest distance from each other, they produce the greatest cold, or that the cold increases as their distance from each other. The distance of the magnetic poles from each other, in a direct line through the centre of the earth is 120 deg. or about 7,900 miles, and the distance from each pole to the centre of the earth about 3,950 miles, and as the magnetism of the earth with its magnetic poles is in motion, and consequently in an active state, as in the case of Davey's battery, the heat must increase as the distance from these poles to the centre of the earth, where it must be at its maximum. Now the heat *in* the earth increases, from a few feet below the surface, at the rate of about one degree in every 45 feet, as is well ascertained by numerous experiments in mines in different parts of the earth, as well as by boring into it, in many places, a distance of from a few hundred feet to the hot water line.

The deepest coal mine in England is near New Castle, where the temperature at the bottom, 1200 feet below the surface, is constantly 77 deg., and at 900 feet 70 deg., while at the surface it is about 48 deg., being about 1 deg. for every 45 feet. In the Mexican mines, at about the same distance from the surface, the temperature is constantly 74 degrees.

An increase of heat from the surface towards the centre of the earth, at the rate of 1 deg for every 60 feet, would make water boil at a distance of 9900 feet, and this is probably the source and mean depth of hot springs. The same rate of increase of heat would produce an intense light red heat at the distance of 180 miles, and melt almost every known substance, and at a distance of about 200 miles would convert them all into the gaseous state, when these gases, in a constant state of expansion, would be forced to the surface, as they are, through the lava, or valves of the craters of the volcanoes, by the action of the heat of the internal surface. The earth is therefore a hollow sphere, the crust or shell of which cannot be more than about 200 miles thick.*

The intense light red heat of the internal surface of the shell of the earth must expand the gases inclosed in it so much as to make them perfectly transparent at the distance of many hundred miles from it, through which the light from this concave surface must shine with great splendor, and present to an observer, a thousand miles in the interior of the earth, a scene of surpassing grandeur.

The solid crust of the earth covered by the sea is thinner than other parts of it, the water extending over a great part of it far below the boiling water line; and hence the cause of the situation of the volcanoes in the islands and near the sea.

There are about 200 active volcanoes, of which 90 are in the islands surrounded by the sea, and 110 on the continents near it.

A volcano in the Indian sea, in 1815, shook the earth at the distance of 1000 miles, filled the air with ashes 300 miles, and roared at that distance like thunder.

The heat of the gases which issue from the craters of volcanoes is so intense as to melt every thing that comes in contact with them, in their course to the surface of the earth; and hence the cause of the lava in the craters, which sometimes flows over their mouths, and descends in rivers of fire to the valleys below.

These are some of the evidences of the most intense heat in the centre of the earth; while the arm frozen and fixed in its descent with the steel in hand to strike the flint to light a fire, is one of the evidences of the most intense cold on its surface—presenting in one view the heat expanding from the centre, and the cold spreading and condensing from opposite points, and thus forming from its elements a crust upon the surface.*

The condensing power of these poles, at first comparatively feeble, has been increased immensely as the number of the strata subsequently formed upon the earth at different and distant periods of time, and the density of these strata, or the crust of the earth, has consequently increased in the same proportion.

As the repulsive force which maintains the earth and planets at their respective distances from the sun decreases in direct proportion from it, they must be maintained in an order in direct proportion to their density, and as their density is increasing with the number of their strata, they are consequently approaching the sun.

The number of strata in the earth and in the different planets is in direct proportion to the number of revolutions performed in their orbits. The number of strata in the earth being taken as 12, their numbers are nearly Vulcan, 24,† Mercury, 20, Venus, 16,

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* The heat at the distance of two hundred miles from the magnetic poles towards the centre of the earth, or in the direction of their magnetic axis, is, therefore, so great as to reduce every kind of solid matter to the gaseous state.

* The ancients it appears from the following quotation had a knowledge of these extraordinary facts, and taught it in their Temples.

"The spot whence issued the prophetic vapor (from the mouth of the *cave* in the Temple of Apollo, at Delphi,) which inspired the priestess, was said to be the central point of the earth, this having been *proved* by Jupiter himself, who dispatched *two* eagles from *opposite* quarters of the heavens, which there *encountered* each other" (Strabo. 419.—Pausan 10, 16.—Plut., de orace. Dep. p. 409. Anthon.

† This planet now in the sun's atmosphere, has been seen through temporary openings in it, five times, by different astronomers.

Earth, 12, Mars, 8, Asteroids, 6, Jupiter, 4, Saturn, 2, Uranus,* 1. The time in which a stratum is formed on each of these bodies is in direct proportion to their distance from the sun, and they are formed about 3 times faster on Mercury than they are on the earth at the present period.

Case of Hæmatemesis,

TREATED BY JOHN EPPS, M.D., LONDON.

Mrs. Waite, aged 23, married only a fortnight. I was requested, on Saturday, July 15, 1843, by the mother of this patient to visit her daughter, whom she represented as in a most dangerous state, and rapidly becoming worse.

I learned that on the previous Monday the patient, to outward appearance, was very well, but in the afternoon of that day was seized with giddiness and faintness, fell, and was found lying on the floor. This was followed by the vomiting of a large quantity of blood, which continued daily, more or less, decreasing a little till Friday, when (she having had some *powerful purgative* medicine administered by her medical attendant,) it increased, and on the Saturday, the day I was consulted, still increased. Such was the state, indeed, that the surgeon in attendance said if another vomiting took place, the result must be fatal.

When I arrived, which was about a quarter past one, p. m., I found the patient lying on the bed with white cheeks, white lips, white blanched fingers, with a swollen transparency about them, exhausted, eyes half closed, pulse rapid, and weak, excessive anxiety of countenance, the tongue blanched, but with a tint indicative of approaching typhus, the teeth encrusted with a sordes, cold sweats often breaking out, and she herself excessively thirsty. Besides these symptoms, there was the peculiar *restlessness*, so striking in these cases, causing her constantly, so far as her weakness weuld allow her, to change her position. Her mother stated further that the patient experiences continual pain round the waist, this becoming violent before she vomits, the pain being after the vomiting for a short time relieved. Her appetite was gone; her bowels had been very violently acted upon by the medicines administered to her before I saw her; the motions were black and knotty; her water passes regularly; her last monthly period was natural. I satisfied myself that she had had no blow, no extra exertion. I ascertained, also that she had had pain round the waist for eight or nine weeks before she was married, and also a pain at the heart, the latter continuing after her marriage.

I gave the patient at once three globules of aconite, in a wine glass of water, and ordered the following:—

℞. *Arsenic*, four globules;
Water, four ounces. The fourth part to be taken immediately‘ and the dose to be repeated every fourth hour.

I left with the patient three globules of veratrum, to be given in case she fainted away.

Sunday morning, July 16. The patient vomited some blood soon after I left her yesterday. She took the arsenicum mixture, slept *in the beginning* of the night, but after waking, became restless, and has so continued ever since. She has not passed any water since I saw her yesterday. Her paleness is, of the two rather worse, and her appearance (to her mother) was worse than it was yesterday: her bowels have *not* acted. She has *not* complained of the pain *round the waist* and upper part of the bowels. She fainted yesterday, and the *veratrum* globules were administered. She feels, to use her own words, "heart-sick," retches very much, but brings up nothing; she *wishes to die*. For the continual retching I prescribed the following mixture:—

℞. *Ipecacuanha*, four globules;
Water, four ounces. A spoonful for each dose. The dose she was ordered to take after each violent retching.

On Sunday night, at 10 p.m., her husband came in great anxiety, wishing me to visit his wife immediately, as they all expected she was dying. On arrival I found that though the previously existing symptoms existed, still they were not *augmented* to the degree that by this time they must have been if she were really worse; I therefore gave hope. Gave three spoonfuls of her ipecacuanha mixture, and left, in case the exhaustion should increase, three globules of China (cinchona) to take; otherwise to continue the ipecacuanha mixture.

Monday, July 17. She was restless all through the night, till the morning. At four in the morning her mother administered the three globules of China. She then fell asleep, and slept better since that hour than she has since Friday. She took a cup of cocoa and some barley water, and both remained on the stomach. She has not *vomited* since she took the arsenicum on Saturday. She complained last night of pain in her head, and wandered much; her eyes *not closed* when asleep. She is now hot and thirsty; her forehead also is hot; the retchings have diminished; her bowels have *not* acted; she is restless when awake. I ordered her two mixtures:—

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* The first stratum upon this planet is not yet completed, as appears from calculations founded on certain geological and astro-magnetic data.

℞. *Aconite*, four globules;
Water, four ounces, Ft. mist., No. 1.
℞. *Nucis vomicæ*, four globules;
Water, four ounces, Ft. mist., No. 2.

I directed that she should take a fourth part of No. 1 mixture at once: wait four hours, then take a fourth part of No. 2; wait six hours, and then repeat as before.

18. Slept still better last night; was not awake more than an hour from twelve to six; her eyes more closed in sleep; she seems still inclined to vomit, but to-day it is rather heaving; water passes freely; bowels *not* opened; she complains of a pain in her stomach and of a fulness. Her hands burned last night, and this evening she is a little feverish. To-day she is decidedly better; her lips are less blanched. She is, however, *more sleepy* to-day. I left three globules of opium, which were ordered to be taken if the bowels remained confined, and the restlessness increased, and the eyes half closed, and the tongue should become brown, and the sleep comatose. If all these symptoms do not appear, then to continue the aconite and nux vomica mixtures.

20. Slept well for four hours last night, and slept with her eyes *closed:* has had very little retching; tongue not so black; thirst less. She has not as yet eaten anything, but expressed a wish for some stewed eels. *Her bowels still inactive,* though she has felt a desire this morning to relieve them, but without effect; water clear; still pain and a sense of fulness about the stomach, and she cannot bear pressure at the pit of her stomach; she has complained, also, of a severe pain in her back; her temper is peevish; her restlessness, when awake, is much lessened; her lips begin to assume a shade of redness: hands less hot. Has taken some beef-tea. She did not take the opium globules. Prescribed an aconite and a pulsatilla mixture, four globules in each, and ordered a bread poultice, on which twenty drops of the tincture of pulsatilla, of the first dilution, were dropped, to be applied to the pit of the stomach, and directed, that, should the bowels not act the next day, she might have an injection of warm water.

22. Her improvement is great; all her family and friends are astonished; she sleeps well; lips are more natural; tongue less black: ate a boiled sole yesterday; *bowels still inactive*, though she has had two injections. She has a little pain in the head, and more pains and rumblings in her bowels; the pain in the stomach is gone. I ordered four globules of cocculus (one globule every eight hours, in a wineglass of water), for the inaction of the bowels, the rumblings, and the pain.

23. *Bowels inactive still;* complains of her head; slept well last night, and awoke quite sensible; her color is returning. She complains of pain in her stomach and bowels, and there is some soreness on pressure; and she was directed to continue the cocculus till three p. m., when, if her pains were not better, she was ordered to take aconite, one globule, and four hours after one globule of *nux vomica.*

24. Head *better;* she is stronger, eats heartily; took some mutton yesterday; *bowels still inactive;* about four p. m., felt a wish to relieve the bowels, but with no effect; she has severe pain in her back, and some tenderness about the bowels: water free and clear; slept well last night, but had during sleep *one* of her eyes *open*; she has still a litle day-restlessness. Ordered one globule of opium in a wineglass of water every eight hours, for the inaction of the bowels and the sleeping with the one eye open.

25. Slept well last night and with the eye closed. After taking three doses of the opium, her bowels were freely open; the stools black and offensive; lips are regaining rapidly their natural color; the fingers have still a marbly hue. Ordered a globule of opium once a day.

31. The patient is able to sit up and to walk about the room without assistance; she eats heartily, but sometimes brings up her food; the bowels have been confined since the 28th; water clear. The monthly period has not appeared; she has pain in the back of the head and great soreness there—of these she continually complains. I ordered pulsatilla, one globule, in two spoonfuls of water—one spoonful twice a day.

Aug. 8. She paid me a visit; she had been at "public worship" on the Sunday. The back of the head is painful when she lies down, and the pain has kept her awake the two last nights. Her food agrees; appetite good; food remains quiet; bowels tolerably regular. The soreness of the back of the head she ascribes to the fall at the commencement of her illness. I ordered *arnica*, and my patient became well.

This case presents several interesting features.

The first is the *inactivity of the bowels.* The bowels did not act for *ten* days, and yet notwithstanding this inaction, the patient became *steadily better.* I am quite satisfied that this inaction of the bowels was an essential to the cure; and, further, that had this patient's bowels been forced open by purgative medicine, hæmorrhage would have recurred, and, death must have been the sequel.

A second feature of interest is the evidence afforded in the effect produced by the opium on the bowels, of the power of opium in removing *inaction* of the bowels in certain conditions.

I may add here, that I have cured the most obstinate constipations by opium, in infinitesimal doses; but let it not be supposed, in proffering this statement, that I assert that opium is *the* cure for constipation generally. Opium will cure *the* constipation which is attended with symptoms to which it is homœopathic, *i. e.*, to which the opium has the power of producing in a healthy person, similar symptoms. Those, therefore, who think to cure constipation by the use of opium without first ascertaining whether the concomitant symptoms are similar to those produced by the operation of opium, will be themselves deceived, and will injure their patients.

Great Russell street, Jan, 10, 1844.

See a case by Dr. Epps, and note in explanation, in our last number, p. 30.

Auscultation.

The editor of the London Lancet, in an article of the 25th Nov. 1843, laments the decline of the use of the Stethescope, and imputes it to an exaggeration of its real merits by the dependence that has been placed upon minute and fanciful sounds, or uncertain symptoms, and the neglect of the aid of percussion.

These are probably some of the causes of the decline of the use of this instrument, but there is another cause which has operated more powerfully in this country to prevent its use at all by many physicians, and to cause the decline of its use by others; and that is the habit of *guessing* the precise seat, character, and state of diseases of the chest and elsewhere, which saves almost entirely the time and labor of investigation.

As reasoning and their obligations to their confiding patients have failed to change the habits of these drones, we would suggest to them the practice of the magnetic symptoms which operate like a great labor-saving machine, and by which diseases of the chest are distinguished in an instant of time, and with a precision that defies imitation by the Stethescope and percussion combined. Mere Tyro's in the practice of these symptoms have often put the professors of auscultation and percussion to the route, by ocular and overwhelming demonstrations with the dissecting knife.

M. Boudet, on the Natural or Spontaneous Cure of Phthisis.

"Tuberculous degeneration of the lungs and bronchial ganglia is infinitely more common, and is oftener susceptible of a favorable termination, than most medical men are willing to admit. In very young children, indeed, tubercles in the lung are certainly of rare occurrence. Of 835 dissections of the bodies of infants, during the first year of life, pulmonary tubercles were found in 13 only—or once in every 64 cases. The frequency, however, of the disease increases very rapidly with the age; for, during the second year, the ratio was found to be as that of 1 to 12: and this progresses, as years advance.

"Having examined in succession, and without selection, the state of the lungs in 197 persons, (of from 2 to 70 years of age,) who died from various diseases or even from casual accidents, I obtained the following results. From two to fifteen years, I found tubercles in three-fourths of the cases. At a somewhat more advanced age, the proportion of tuberculous to non-tuberculous individuals seems to reach its maximum; for of 135 persons, whose ages varied from 15 to 36 years, in no fewer than 116 were tubercles found, either in the lungs themselves or in the bronchial glands; viz. a proportion of six in every seven cases. If such be the case, we may truly say that the presence of tubercles in the respiratory organs is the rule, and their absence is the exception.

"This singular result—a result which, at first sight, seems almost quite incredible—is however readily explicable by the gratifying circumstance of the extreme facility with which these morbid products cease to be incompatible with health, in consequence of various changes that they are liable to undergo in their intimate composition.

"The spontaneous cure of tubercles in the lungs is effected in several different ways. In some cases the tuberculous deposit becomes isolated from the surrounding pulmonary tissue, by a firm fibrous envelop being formed around it. Again, the density of the tubercles themselves may become increased in one of three ways: either by their becoming so desiccated as to form quite a friable paste; or by their assuming a firm tenacious consistence that is greasy to the touch; or, lastly, by their degenerating into an inorganic calcareous matter.

"Tubercles may also disappear, in consequence of the progressive extension of the black pulmonic deposit, that we so often see around them. Occasionally, too, they become wholly or partially absorbed, leaving nothing in their place but their sac or envelop. Lastly, their contents may be eliminated from the body."

These various modes of natural cure may be reduced to five, viz.—1. *Sequestration*, by the developement of a fibrous sac around the tuberculous deposit;—2. *Induration*;—3. *Transformation* into black pulmonary matter;—4. *Absorption*;—and 5. *Elimination*. The author makes the following remarks on the latter two modes; and first of absorption.

"Tuberculous matter may be absorbed. I have frequently had occasion to observe tubercles which had become modified in their consistence, and which exhibited very unusual appearances. Instead of being globular, they were of an oval or eliptic shape, or they had become rough and angular on their sides. May we not suppose that such changes were owing to an unequal absorption of different parts of these deposits?

"Occasionally, too, I have found, in the centre of a thin membraneous cyst, a minute tubercle, perhaps not larger than the quarter of the size of a millet seed, and which yet exhibited all the physical characters of this morbid product. Now we rarely or never meet with tubercles, when first deposited in the pulmonary parenchyma, so very small as those which we have now described. There is strong reason, therefore, for supposing that a partial absorption has taken place. What greatly confirms the probability of this idea is, that I have occasionally found, in the neighborhood of these dwarfed tubercles, numerous minute cysts, which were entirely empty; the tuberculous matter, which had once filled them, having disappeared. From these facts I infer that tuberculous deposits may disappear from the tissue of the lungs, by becoming absorbed.

"With respect to the mode by elimination, the only remark that I have to make is, that I have never known it to be effected except in one way, viz. that of expectoration from the bronchi. In this manner, sometimes, pieces of very considerable size have been rejected by coughing.

"The transformation of tuberculous matter may take place at all the stages of its evolution; in the state of softening, as well as of crudity; and under the form of grey granulations, and yellow tubercles, whether these be separate or aggregated together.

"Even tuberculous excavations of the lungs not unfrequently undergo a curative process. Of 197 cases taken at hazard, in 10 I have found the cicatrices of caverns in the lungs, without the existence of any recent tubercles; and in other eight cases, the process of sicatrisation was going on, while recently-formed tubercles existed at the same time. When circumstances are favorable, the process of their healing is usually by the organization of an accidental mucous membrane, lining their cavity; but sometimes by the formation of a fibrous or fibro-cartilaginous envelop. Their cavities may continue to be open, and to communicate, or not, with the adjoining branch. Sometimes they become quite obliterated by the cohesion of their opposite surfaces.

"Usually, the parenchyma of the lung for some little extent around the cicatrised vomica is more or less indurated and impermeable to air: very often it is infiltrated with a black-colored matter.

"Not only have I frequently ascertained by dissection the frequent transformation of tuberculous deposits, but I have also been able to follow out, in the living subject, the conformation of these data; and I now feel confident that phthisis is much more frequently cured than most physicians are willing to admit."

M. *Fournet* alludes to his having met with, in the course of one year, no fewer than 14 cases of confirmed phthisis that were cured; besides 10 other cases, in which dissection revealed the traces of caverns, that had become perfectly healed.

He goes on to remark, that "these 14 cases of phthisis cured in the living subject, have proved to me—

"1. That certain persons, who have exhibited the most decided symptoms of the disease in its most advanced stage, may yet be restored to excellent health.

"2. That, if the general state is satisfactory in these individuals, and does not occasionally bear the evidence in some manner of the accidents of their past life, the local condition is very different, and always reveals the presence of alterations, more or less extensive.

"3. That even hereditary phthisis, in its most advanced stage, is susceptible of cure; although such an occurrence is certainly much more rare than in cases of the accidental disease.

"4. That phthisical patients, who have been treated by very various kinds of remedies, or who have been left entirely to the resources of the natural powers of their economy, seem to have recovered in about the same proportion; and, therefore, that nature generally 'fait tous les frais' of the cure of the disease."

He concludes his remarks with the following sentence: "The capital fact which seems to spring from these inquiries is, that tuberculous disease is not, like Cancer, essentially incurable; on the contrary, that it is often curable, and that its extreme and most disheartening fatality is referrible rather to the circumstance of its being seated in one of the vital organs of the system, and to its tendency to frequent relapses, than to its primary and essential nature.—*Revue Medicale.*

M. Boudet confirms in the most extraordinary manner the views of consumption we have long maintained, and long since published in this country, and we have selected and now republish the article for the particular benefit of a certain class of physicians, who when they have been pointed to cases in which this disease has been cured by the magnetic remedies, have uniformly answered "it was not a case of consumption, for that disease can't be cured." We may now, also for their benefit, republish a schedule of the cases of tubercular disease treated with those remedies in 1835, and published in 1836, in which it will be seen 42 out of 46 cases of consumption were cured. We would not, however, be understood as intimating a belief that they could have made such a proportional number of cures with those remedies, without first learning how to distinguish the disease before the sexton is called.

Cases of tubercular disease affecting different parts of the body, and treated with the magnetic remedies from Jan. 1, to Dec. 31, 1835.

Cases affecting the neck, ...	18
Neck and eyes, ...	2
Neck, nose, and spine, ...	1
Neck, tongue, tonsils, and right leg, .	1
Neck, jaw, tonsils, ear, cerebellum, breast, heart, stomach, uterus, one arm, and both legs, ...	1
Neck and lung, ...	2
Neck and stomach, ...	1
Neck and mesentery, ...	3
Tongue, tonsils, and uvula	1
Tongue tonsils, and right leg, . . .	1
Nose and face, ...	2
Lungs, (first stage,)	21
Lungs, last stage, with tubercles in a mature state, ...	1
Lungs, with excavations, ...	5
Lungs and both legs, and one ankle, with excavation of both lungs, . .	1
Heart, ...	3
Heart and liver, ...	4
Stomach, ...	19
Liver, ...	5
Stomach and lungs, ...	18
Kidney, (left,)	1
Liver and kidney, (right,)	1
Liver and stomach, ...	4
Liver with abscess, ...	3
Mesentery, ...	1
Uterus and legs, ...	3
Uterus and lungs, ...	2
Uterus and stomach, ...	6
Joints and limbs, ...	31
Unknown, ...	1

Whole number of cases in 1835,	163
Of these cases the number cured is, .	154
Cases not cured, in consequence of not using the remedies a sufficient length of time, ...	3

Of the cases which have died, the first was that of Master N., of Columbus, aged 16 or 17 years' whom I never saw, and of whose case I know nothing, except that it was about ten years since it commenced.

The second case was that of Mrs. B., of M., in the last part of the last stage of tubercula of the mesentery, with a frightful marasmus.

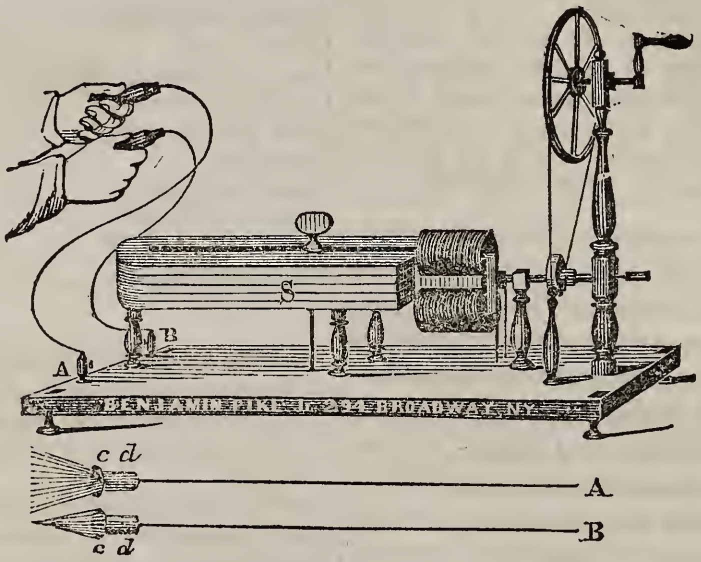
The third case was that of Mrs. K., of M., with cancer of the uterus in a state of ulceration, complicated with abscess of the liver, which was discharging matter through the right side in four places.

The fourth case was that of Mr. W., of M. Michigan, with tuberculated right leg, left hand, heart, and scalp over the right frontal, and right parietal bones. The leg and also the scalp ulcerated in two places. He died of compression of the brain, in consequence of the injudicious use of nitrate of silver, which had been frequently applied by the direction of his physicians, to the upper part of the parietal bone, and penetrated through it to the brain, as shown by dissection.

The fifth case was that of Mrs. S., of Cincinnati, with tuberculated left lung in a mature state; and sixth, the case of Mrs. C., of Cincinnati, with hypertrophy of the heart, and excavation of both lungs.

The yearly number of cases in which these magnetic remedies have been used, and also the yearly number of cases they have cured since 1835, have increased more than a hundred fold, as ascertained by a simple arithmetical series—under all the disadvantages in loss of time, and of having been before in many cases nearly quacked to death with the common treatment of the schools.

They should now, with the demonstrations of the scientific character of these remedies derived from the results of the magnetic action of the rotary machine, increase in a much greater ratio.



Rotary Magnetic Machine.

The readers of the Dissector will recollect that, in our last number, we gave a description of the extraordinary effects of the Rotary Magnetic Machine, obtained by Von. J. E. Wetzler, of Krunkheiten, in Germany. We have repeated some of his experiments with this machine with the same or similar results, and we have besides obtained with it the most astounding effects in a variety of other cases.

This machine has been known as one of great power both in Europe and this country, during the last two or three years, but nothing of consequence has been published in regard to its application in the cure of diseases, excepting the experiments of Von. Wetzler.

When the wheel is turned, the armature of soft iron, wound with copper wire, strikes the poles of the magnet, S, fig. 5; which elicits sparks of fire, while brass cylinders, connected with the armature and poles of the magnet, by copper wires, are held in the hands. The forces from this machine, it will be seen, are diffused and connected with the skin, from and over large surfaces, instead of points of copper wire, as formerly. Von. Wetzler, it seems, first applied these cylinders to the face, head and other parts of the body to cure local diseases.

We soon found the cylinders very awkward means of connecting these forces with different parts of the body, and especially in directing them into the different organs through the posterior spinal nerves, and we consequently substituted large brass buttons, &c., connected with copper wires, A B—the wires being drawn through corks, d d, (non-conductors) with which the buttons are placed and held on the different parts of the body. The button, c A, is about an inch and a half in diameter, and is connected with the hollow conductor, B, of the north pole of the magnet, by means of a screw; while the button of the other wire, c B, of one inch in diameter, is connected with the south pole, S, at A.

The forces that are conducted from the north pole along the wire, A, through the button, c, repel and expand, and are much stronger than those that are conducted from the south pole along the wire B, through the button, c, which attract and contract, and this fact was known to Von. Wetzler, who estimated the difference at from 30 to 40 per cent.

We have another rotary magnetic machine from the same maker, much smaller, and which answers all the purposes of this, in which a small magnet is turned over a small armature, by a small magnetic battery. The buttons we use in magnetising are attached to it in the same manner as in the other machine, and its power is increased to a very great extent by placing pieces of iron wire of the length and size of knitting needles into the cylinder of coils of copper wire connected with the poles of the magnet and armature.

Having described thesemachines, and the instrument, by which the forces obtained from them are connected with different parts of the body, we shall now proceed to describe the effects of the action of these forces on the organs and other parts of the body in a variety of cases.

Sick-Headache.—In these cases we have applied the large button connected with the machine to the poles of the brain through the organ of causality on one side, and the small button to the organ of amativeness on the opposite side, alternately; so that the forces might pass along the line of the axes of the large poles of the brain as seen in fig. p. 58. The power applied was always very light and 8 persons, including ladies and gentlemen, were cured in from 1 to 3 minutes.

Chorea, or St. Vitus' Dance.—The case of a young lady aged 13 years, with complete loss of power over the left hand and arm, and very little over the left foot and leg. She had been out of health, with pain in the head and chest, but the disease was not fully developed until two weeks before she called upon us. The magnetic symptoms pointed to the disease in the cerebellum. The large button was then placed on the right side of the organ of amativeness and the other on the hand, and then on the foot, and sometimes on the organs of causality and individuality. She improved daily under this process. We commenced magnetizing her Jan. 15, 1844, and magnetized her generally once every other day, and on the 9th of Feb. the use of her limbs was entirely restored.

Tooth-ache.—(Jumping.)—Two cases, and each entirely cured in an instant of time.

Tic Douloureux.—Three cases. The first was cured the first sitting. The second after three, and the third on the second.

Tooth-ache with swelled face, 6 cases, 5 of which were cured at the first, and 1 on the second application of the buttons, to the face.

White Swellings of Mucous Surfaces—Encysted Tumors of the Wrist and Hand.
Three Cases.

A hopeless case of this affection in a gentleman, aged 37 years, was presented to us, in which the joints of both wrists and hands were implicated. The use of the right hand and arm had been entirely lost about seven months, and the left was swelling and fast approaching the same state. There were two very small encysted tumors on the right wrist, which was much swelled, and four about the size of musket balls on the left. There was one also on a swelled joint of each hand.

The buttons were placed upon these swellings under the full power of the instrument, which they resisted with the greatest tenacity for ten days, when they began to succumb and shrink from it. They have now, March 10th, been under the action of the machine from five to ten minutes nearly every day during the last 60 days, and they are now very nearly reduced, and the strength and action of the hands and arms very nearly restored.

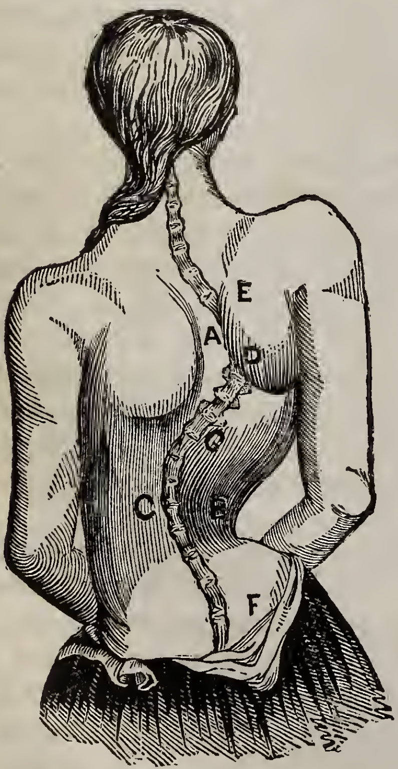
The second case is that of a female servant, with swelling of the left wrist and hand, and two large encysted tumors, with entire loss of power in the hand and wrist. One of these tumors had been opened by a surgeon, and its gelatinous contents discharged without benefiting the patient. The buttons were applied as in the first case; on the fifth day the swelling and tumors began to shrink under them, and on the sixth day she was able to open and shut her hand with considerable force, and the disease will soon be reduced.

The third case is that of a lady with swelled wrist, and one encysted tumor, which, like the other cases of this class, is yielding slowly to the power of the instrument.

Lateral Curvatures of the Spine.—2 cases. The muscles of the back are alternately tuberculated and atrophied in these cases, and in many of them puffy or elastic white swellings formed over the tuberculated muscles, while the atrophied muscles become paralised and cease to act. Slight deviations of the spine are the consequences of the first change in the natural state of these muscles, and great curvatures of the last, as seen in fig. 6.

This figure represents, in no exaggerated form, the case of a young lady of this city, aged 17 years, who on returning home from school, about two years since, was seen to have a slight deviation in the spine, which gradually increased to the great curvatures seen in the figure, which also represents, very well, hundreds of other cases in this city, that are most lamentable monuments of the present state of the knowledge and skill of the medical profession.

Fig. 6.



In this case a large puffy and elastic white swelling occupied the back part of the scapula, DE, over the tuberculated muscles under it, and extended to the upper part of the right shoulder; while the muscles on the inside of the arch of the spine at A, were paralised. Again the muscles on the outside of the arch at C, were tuberculated and as tense as the head of a drum; while those on the inside at B, were perfectly paralised, soft and flabby. The muscles were also tuberculated and tense at F, and atrophied on the opposite side of the spine. There was also a great projection of the point of the scapula at D, and the spine itself was tuberculated from thence to G.

We commenced magnetizing this young lady, by applying the different buttons on the paralised muscles at A, and B, alternately, at intervals of a few seconds, with the greatest power of the machine. They were also applied at E, and B, and at E and C, which straightened the spine so much as to bring the whole width of it out from under the shoulder blade, and the sitting was concluded in 10 minutes.

Very little action was apparently produced in the paralised muscles, but it was amusing to see them dance at the next and succeeding sittings to the tune of the instrument. The large puffy swelling DE, was seen to shrink under its power, while magnetizing her the fourth time, and we and the ladies in attendance were surprised to see it suddenly vanish entirely, leaving behind little else but the skin and bones of the scapula, when the sitting was instantly concluded.

The action of the paralised muscles was now so much increased, as to make it necessary to lessen the power of the instrument, and after the tenth sitting, in the course of fourteen days from the time we commenced magnetizing her, the muscles at B, had become full, broad, and tense; while those on the opposite side had become much softer and less tense. The muscles at A had also become tense, and those on the opposite side relaxed. The space between the shoulder blades, which did not at first exceed two inches, amounted now to six inches, and the spine having very nearly resumed its natural position, and her form very nearly perfect, she was dismissed, with directions to apply the magnetic plaster five inches wide along the spinal column, and to take the magnetised gold pill.

White Swellings of the Serous Surfaces—Tubercular Disease, or common Scrofulous Swellings of the Joints.

We have been daily applying those buttons to these swellings during the last two months, with a moderate power of the machine, and in a great variety of cases, including those of the shoulder, elbow, wrist, hip joint, knee, ankle, foot, and cervical, dorsal, and lumber vertebræ. A great majority of these cases were, at the time we commenced magnetising them, using the magnetic gold pills and magnetic plaster, and were in the various stages of the process of cure—some of the cases being still in the first, others in the second stage, and some very nearly well. It would be as tedious as it would be useless to describe successively the apparent effect in each case, as they necessarily varied, more or less in the different stages of that process, and it will be sufficient to say the effect has been apparently beneficial in nearly all these cases, and has in no instance been apparently injurious. The same may be said of the cases which had not been under the use of these remedies, and the case of white swelling of the scapula of the young lady with curvatures of the spine, is an example of the best effects obtained in some of these cases, which did not, however, from the nature of the disease, preclude the necessity of the use of other remedies.

Bronchocele—(Goitre).—Two cases. 1st. that of a young lady, from the mountains of New Jersey. The disease commenced five years since, was very large, and we had been foiled in an attempt to cure it, and now applied the buttons to it without mercy, under the full power of the machine, which made it tremble like a leaf, without exhibiting any disposition to shrink from the action of the instrument, and the sitting was concluded in ten minutes. The next day the tumor was again placed under the full power of the machine, which soon began to shrink under it, and in ten minutes was reduced about one-third, when the sitting was concluded. On the third day it was again submitted to the full power of the instrument, and in ten minutes entirely disappeared, and the sitting was concluded; but on removing the buttons the swelling appeared again. It was, however, much reduced. On applying the buttons to it again on the next day, it disappeared in an instant, when the patient screamed under the frightful power of the instrument, which now shook her whole frame. The power was instantly reduced by an assistant one-half—the buttons being still held in their position, and in ten minutes the sitting was again concluded.

On removing the buttons, this unwelcome intruder on female beauty, like Monsieur Tonson, "came again," but was now reduced fully one-half. The reduction has continued under the daily action of a moderate power, and the swelling now (March 12th,) after having been magnetised ten times, is not more than one quarter of its original dimensions.

The second case is that of a young lady of this city. The swelling was comparatively small, and she was unable to bear more than one-fourth part of the power of the instrument at the first sitting. It entirely disappeared in an instant at the commencement of the second sitting, and on removing the buttons, it was apparently permanently reduced more than one-half. (March 12th).

Paralysis—(Palsy).—Thirteen cases, including those of one side of the face, of the ear, eye, one arm, leg, one side of the body, (hemaplegia,) and of both lower limbs, or paraplegia.

In some of these cases the paralysis was diminished, or removed temporarily, and in others permanently, by the action of the machine. Some of them were the consequence of tubercular disease of the serous surfaces of the cerebellum and medulla oblongata, as disclosed by the magnetic symptoms; while other cases were those of hypertrophy of the mucous surfaces of those organs, as disclosed by the presence of the disease, and the absence of those symptoms. The diagnoses in the different cases was confirmed, 1st, by the existing connection between the paralysed muscles and these organs; and, secondly, by the great difference shown in the *sensibility* of those different surfaces under the action of the machine.

These observations will enable physicians who are familiar with these symptoms to distinguish the different cases requiring very different powers of the machine, and also the importance of aiding its action on these organs with the proper remedies for the reduction of these diseases, or aiding the steady, although comparatively feeble action of the proper remedies for these cases, by the necessarily temporary action of the machine, as the cause of the paralysis in these cases must be removed, as our experiments have shown, before the paralysed limbs can be fully and permanently restored.

These suggestions are deemed of so much importance as to induce us to illustrate them in a concise history of one of these cases—that of C. J. H., a young man, aged 24, who for four or five years past had been suffering from a gradual diminution of the power of voluntary motion, mostly in the lower extremities, and amounting at least to almost perfect paralysis, being unable to walk across a room without the aid of a cane, and then only able to shuffle along without raising the feet or bending the knees. These symptoms were accompanied with costiveness, loss of appetite, of sleep, of flesh, and at last, with pain in the head, when his mind began to give way to the general wreck of his naturally good constitution.

The magnetic symptoms pointed to the seat of the disease in the cerebellum, and we commenced magnetising him on the 3d of January, and the first sitting, which was concluded in ten minutes, resulted in a favorable modification of all the symptoms. He was brought to us in a carriage, but determined to put his increased power of locomotion to the test, and first walked about half a mile on his way to his lodgings. At the second sitting on the 6th of January, the pain in his head gave way. After the third sitting on the 6th, he walked about three miles, and after the 6th, (11th Jan.) he made the natural motions in walking. He was magnetised daily, with a steady improvement in his symptoms, until the 20th Jan., when he took a severe cold, and was consequently confined to the house until the 12th February, when we commenced magnetising again. His bowels have now (March 15th,) become perfectly regular, appetite excellent, sleep sound, mental powers greatly improved, and flesh and power of locomotion nearly natural, indicating a vigorous action in all the functions of life.

Now this naturally talented and amiable young man commenced the use of the magnetic remedies before mentioned by the direction of a physician in one of the southern States, and who after a few weeks advised him to come to this city, and we advised him to continue the remedies in conjunction with the action of the machine. He did so, and such is the result of a perfectly hopeless case, the consequence of supposed harmless irregularities, excited by an enormous cerebellum.

Ear.—(Deafness.)—We have two cases of this affection, from tubercular disease, whose hearing is improving under the combined action of the machine, and the remedies mentioned.

Eye.—We have obtained the most flattering effects in some cases of disease of the eye, by the action of the machine alone—indiscriminately, without regard to the classification of the nosologists.

Erysipelas.—Two cases. The erythema, or red blush of the skin, in this disease, is precisely like that produced by the buttons under the action of the machine, and we were pleased with an opportunity to test the effect of its forces in a severe case affecting the face, which became as pale as death, on moving one of the buttons over it—the other being at the same time in contact with the ear. This magical effect, after the lapse of eight days, appears to be permanent.

The homœopathists lay great stress upon the result of this experiment, as confirming in the most extraordinary manner their favorite doctrine of *similia similibus curantur*, and insist upon it that the allopathists must match it, or give up their opposition to homœopathy.*

The second case was also a severe one, affecting the lower limbs, in which, like the first, the common remedies of the schools, and a great variety of nostrums had failed. The disease, however, gave way in the most extraordinary manner under the action of the instrument, reducing the swelling and removing entirely the intolerable itching.

Aware of the consequences resulting from attempts to impart to the people, and, consequently, to pretenders to science, a knowledge for which the former are not, and the latter never can be prepared, we should not at present venture to describe the effects obtained from the machine in another case, if those we have already described, as well as many others, had not been witnessed by a great number of respectable persons, but as such is the fact, we may proceed, regardless alike of the good or evil effects of the action of the machine under the guidance of those who know nothing of the magnetic symptoms of disease, acute or chronic, or of the magnetic organization of the human system on which the instrument acts.

Tubercular Disease of the Neck.—(King's Evil.)—Four cases. They were all under the influence of the magnetic remedies before mentioned, or magnetised rings, to which that of the machine has been added, and are all progressing favorably.

Strabismus.—(Squinting.)—One case. This was a bad case of a young lady, affecting both eyes during the last seven years, which turned out so much as to make it very difficult to read. We applied the buttons to them, under a moderate power of the machine, and concluded the sitting in two minutes, with a plain diminution of the affection. The reduction continued daily, under the action of the instrument, and on the fifth sitting it was completed. The action of the eye was then perfectly natural, and the cure appears to be permanent.

Entropium.—(Eye-lashes and eye-lid inverted upon the eye-ball.)—One case. That of a female. The common operation and remedies had failed in this case. The disease could not, however, resist the action of the machine, but succumbed to it—the eye-lid turning out, and the sitting was concluded in ten minutes. The eye-lid and lashes did not venture to occupy their former position. We are now magnetising both eyes to remove the opacity of the corneas and granulations of the eye-lids, which are disappearing rapidly under the action of the instrument.

Aphonia.—(Loss of voice.)—One case. We have used the machine three times in this case with decided benefit.

Tubercular Disease of the Throat.—Eight cases. The swelling and redness of the throat could be plainly seen to be lessening daily under the action of the machine in these cases. The worst cases of enlarged tonsils do not withstand the action of the instrument, but shrink under it, becoming pale and corrugated.

ACUTE DISEASES.—*Inflammation of the Liver.*—Two cases. The action of the instrument reduced the inflammation in these cases with great rapidity. The pain, however, is so much increased, as to make it necessary to observe the greatest caution in magnetising inflamed surfaces.

Tubercular Disease of the Organs.—We have conducted the forces from the machine through all the organs in a great number, and a great variety of cases, including the brain and spinal cord. In these cases one of the buttons was placed over the spinal cord in the hollow of the neck on the organ of amativeness, the suboccipital, or one of the posterior spinal nerves, and the other button on different parts of the body depending on the organ and different parts of it, through which we wished to conduct the forces, and this we have always been able to do with the greatest facility and precision. As regards the effects obtained in these cases, beyond that of removing or palliating a painful or urgent symptom, permanently or temporarily. We can say but little that is perfectly satisfactory, because the process of cure is necessarily slow, where, at least in many of them, large portions of the organs have to be taken down, carried off, and rebuilt before the patient can recover, and the time since we commenced magnetizing these organs, now only about three months, is not generally long enough to effect these objects.

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* One of these gentlemen, however, suggests that they may possibly be able to do so, by the aid of such a genius as Dr. Post, so celebrated in the manufacture of homœopathy soup.

Besides a great majority of these cases were under the influence of the magnetic remedies, and many others were placed under their influence with the impression that the effect of the machine alone must necessarily be temporary in such cases, which appears to be confirmed by the apparently temporary effect of the instrument upon most if not all of those who were not under such influence.

As regards the effect of the machine in many of the cases in which the patients were at first, or after having been magnetized a few times, were placed under the influence of those remedies it was generally little more than that of removing the urgent symptoms of the periods of excitement in the course of the disease. There were however some extraordinary and most interesting exceptions to these general results, and among these are the apparent effects of the machine in some of the cases of consumption in which we have used it, which leave little doubt of its great influence in this disease, and as little that it will hereafter be entirely under the control of the physician who learns as he may to distinguish it in its incipient stage, or when the tubercles are in their milliary state.

The experiments of Drs. Lerche and Crusell, of St. Petersburgh, suggested to us the probability of such a result from the action of the machine, as they formed tubercles with one pole of a battery and dissipated them with the other, in *their experiments upon the eye.*[*]

The action of the machine will also be found of the greatest importance in female complaints. The uterus, and the broad ligaments which sustain it in its position in the healthy state, contract with great force in prolapus uteri under the action of the instrument, and gives the most entire and apparently permanent relief.

In tubercular disease of the heart (hypertrophy) the effect of the instrument is also very extraordinary—the action of the heart becomes slow and regular, whereas in magnetizing other organs the action of the heart and arteries is not altered.

There are certain rules which we have observed in magnetizing to prevent injury from the action of the machine.

1. The large button for the sake of distinction, and for convenience in conducting the negative force over large surfaces, was always connected with the machine in the place and manner before described.

2. In magnetizing the brain or cerebrum we have placed the large button on the organ of causality on one side, and the small button on the organ of amativeness on the other.

3. The large button was placed on the cerebellum on one side in disease of this organ, and the small button on the ear or hand of the other, excepting cases of disease of the vermicular process, when the large button was placed on the hollow of the neck, and the small one on the organ of individuality.

4. In magnetizing the face, both buttons have sometimes been applied to it, but generally the large one only, while the other was applied to the ear.

5. We have placed the large button over the eye-lids and the small one over the organ of amativeness in magnetizing the eye, except in the case of strabismus, when the small button was placed in the corner of the eye next the nose, and the other in the opposite corner.

6. In magnetizing the ears, the large button has been placed upon the tongue and the small one on the ear, except in cases where the disease has been traced to the origin of the auditory nerve, when the large button has

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[*] The results of those experiments form one of the best texts for the most withering comments on the common system of practice, as will be seen from the fact that physicians of every name and grade, as well as quacks of all sorts, are constantly prescribing positive and negative remedies indiscriminately, in different, or positive and negative diseases, without the least knowledge of their having any such distinctive character, and consequently none of the cause of the discordant and unscientific results of the action of their remedies.

been placed on the cerebellum on one side, and the ear on the other.

7. The buttons have been held on both sides of the throat a minute in magnetizing it, and then reversed alternately, and in magnetizing bronchoceles and other swellings we have pursued the same course.

8. In palsied limbs the large button has been placed on the cerebellum, or over the cervical vertebrae as in rheumatism, and the other on the palm of the hand or on the leg or foot.

9. In magnetizing the organs of the body as the lungs, heart, stomach, &c., the large button has been placed on the spinal nerves connected with these organs, and the other over the lower parts of the organs.*

10. In magnetizing the brain or cerebrum we have observed the greatest caution in using only the weakest power of the machine, and this is a rule which should never be departed from; and in magnetizing the other organs it will be the safest course to commence the operation with a weak power, and then gradually increase it as the patient can bear it, or as circumstances may require. It may appear superfluous to say another word in regard to the caution that should be practised in the use of this instrument. It may, however, be useful to observe that in consequence of the greater force from the large button, the focus of the forces is not equi-distant between the buttons, but at about two-thirds the distance from the large one, and this fact may aid magnetizers in avoiding as much as possible in operating upon the brain, the withering effects of the little button. If any injury is felt, the action of the instrument should be reversed—a fact that will be understood by mesmerizers who will, we have no doubt make the best and safest magnetizers.

We may now with our experience in the use of these machines, advise physicians to use the small rotary machine we have described, as it is the safest, cheapest and most perfect instrument, and which cannot fail to advance with great rapidity the progress of the present revolution in the practice of physic and surgery.

Animal Magnetism.

Surgical operations in the magnetic state are becoming common occurrences. Bones are set, tumors and limbs are removed, and teeth are drawn in this state in a very comfortable manner, without pain or knowledge of the patients. The attention of clairvoyants is also beginning to be directed to the motions of the light-fingered gentry, as will be seen in the following article, from the March Number of the Magnet.

Extraordinary instance of Clairvoyance.

Dear Sir:—Believing that the following account, although connected with circumstances of a melancholy and painful character, may not be uninteresting to your readers, I have concluded to submit it to you, for publication in the Magnet. I feel great reluctance in undertaking the sketch, on account of the deeply mortifying circumstances under which the developments were made; and, because, it must cast severe reflections upon a young man who is now no more. I feel compelled to use *initials*, instead of names at full length, so as not to give *unnecessary* pain to surviving friends, though it be to subserve the interests of a sublime and interesting science, which is my only apology for the narrative.

Some time during the month of January last, a Mrs. S., of the village of A. A., in the State of Michigan, missed from her parlor table, a beautiful little gold watch. It was taken one evening, while no member of the family was in the parlor; and no one having been heard to go into the room, the whole affair was enveloped in mystery. Suspicion rested upon no one in particular, in the mind of Mrs. S. or her husband. Careful search and enquiry were made for several weeks, but all to no purpose. The singular disappearance of the watch, remained an unexplained secret, locked up in the bosom of the unhappy young man who had ventured to commit the deed. A few months passed away, and the matter was nearly forgotten.

In the spring, (in the month of April, I believe,) Mr. D. B., the distinguished scholar in the science of Animal Magnetism, visited A. A., for the purpose of lecturing and exhibiting facts and experiments in proof of the pretensions of Mesmerism. He had with him, a young man, whose name I do not now recollect, but who was a stranger in that place. This man was an excellent *clairvoyant;* and while in clairvoyance, possessed one peculiar faculty, which I do not recollect to have ever read of before. He invariably took that notice of objects, that enabled him to remember them with perfect distinctness, when awake.

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* When *pain* is produced by the action of the instrument, the position of the button should be reversed.

One day, while in clairvoyance, Mr. S., the husband of the lady who lost the watch, was placed in communication with him. He enquired of the clairvoyant, (whose name for convenience I will call A.) in relation to the disappearance of the watch. For a long time, Mr. A. refused to answer the interrogatories put to him, touching this delicate subject; but at length, consented to undertake a full disclosure. His answers were sufficiently definite and descriptive, to fasten suspicion upon C. C., a young man who resided in the place, and who had been in the employ of Mr. S., and who had long been a familiar visitor at his house. He stated, *definitely*, that the watch was now [then] in the hands of a young man in the village of Amsterdam, in the State of N. Y.

The credulous, of course, believed that C. C. was the guilty man, especially as he was known to have visited Amsterdam late in the winter. This disclosure was made in the presence of but few witnesses or spectators. The next day, Mr. A., the clairvoyant, came to Mr. S., apparently under great excitement, and pointed through the window of Mr. S.'s office, to a young man in the street, and declared *him* to be the young man whom he saw in clairvoyance the day before, and who took the watch! The young man was C. C., who was a perfect stranger to A. Even the credulity of Mr. S. was now disturbed. He could not, he *would* not, believe the clairvoyant. C. C. had always maintained an unsullied reputation; and Mr. S. had been long and intimately acquainted with him: he was a young man much beloved and respected.

This young man, C. C., early in the month of August last, was taken violently sick, with a fever. After it had raged for a few days with such obstinacy as to preclude the possibility of recovery, he was told by his faithful physician, that his case was hopeless,—that he must die! It was an unwelcome message; but he must now be honest, for the scenes of the Judgment were at hand!

Two days before his eyes were closed in death, he sent for the Rev. Mr. C. an Episcopal clergyman, with whom he had long been familiarly acquainted. To him he made a free, full, and humble confession of the whole transaction. He disclosed the secret known to none but his God! It was precisely as the clairvoyant had stated it. He took the watch east with him, and sold it to a brother in the village of Amsterdam, as had been stated. He exonerated every body else from any participation or privity in the affair; and confessed that upon his head alone rested the guilt! Such is a true history of this matter, which may be relied upon as perfectly authentic.

Yours, &c.

PHILOMATHIA.

Michigan, Jan. 16*th*, 1844.

* * *

Animal Eelectricity.

As some remarks were made in our last number on this subject, we revert to it now merely to state a fact, to which a large number of our most intelligent citizens can testify.

During Mr. Quimby's exhibition in this town on Wednesday evening, 14th inst., his intelligent Clairvoyant was in communication with F. Clark, Esq., a respectable merchant of this place. The Clairvoyant described to the audience a barque owned by the Messrs. Clarks & Co., called the Casilda, then on her passage from Cuba to New York, minutely, from "*clue to earing*," as seamen say. He then informed the company how far said barque was from her destined port, and gave the name of vessel and port. The distance, we think, was about 70 miles.

On the next evening, he visited (in his somnambulism) the same vessel, and said she had arrived off the Hook, where she then was.

On the Tuesday following this exhibition the merchants received a letter informing them of the arrival of this barque (see our Marine Report) at the precise time stated by the Clairvoyant, who, it will be recollected, is Lucius Bickford, a young man 19 years of age.

This was but one of several exhibitions of his visiting absent vessels, of which he could have had no information, and describing even the master and people on board.

We profess no knowledge of this wonderful science, but deem it a duty we owe to the public, to publish every fact that may aid the progress of human knowledge.

Now to our minds, there is no more mystery in all this than there is in repeating a lesson committed. How is this done? Why, we say, it is the impression made on the mind, of the very letters and words committed; and when the book is removed and the bodily eye cannot see those letters and words, the "*mind's eye*" sees them, and by this agency alone the subject repeats them, and can even describe the very form of the letters. But it is a fact, that pressure on the brain will instantly stop all this, even in the middle of a word; and this has been demonstrated to many witnesses. What does this prove? Why, that the *nervous system* of man, is the medium of all such intellectual communications; and if so, we say, it is the *invisible* nervous *fluid*, which is as much ELECTRICITY as that of the atmosphere which produces such wonderful and *mysterious* effects; but which is, and even will be invisible and hidden, and one of the mysteries reserved for a world of spirits. Now when the electric fluid or spirit of the atmosphere shatters a tree or house, we all believe it was done by that agency, passing from a cloud to the object below. Why, then, reject the testimony of our own senses, by disbelieving that a similar fluid passes from one person to another, enabling him to see in the "*mind's eye*," what he cannot behold with his natural eye? If we reject this mode of reasoning, we might on the same grounds reject truths of a most sacred and immutable character.—*Wiscasset* (*Me.*) *Republican*, *Feb.* 22, 1844.

* * *

MR. SUNDERLAND.—This gentleman concluded his course of lectures on Magnetism, on Saturday evening last, to a good audience The evening's entertainment was a rich one, inasmuch as the experiments were interesting and satisfactory. Quite a number of individuals fell victims to the sympathetic power of Mr. S,, at extreme points of the hall, who, after an elapse of some twenty or thirty minutes, were drawn to the platform by the attraction of the operator.

Mr. Sunderland's mode of operating is entirely different from any thing we have heretofore seen—it is original with him, and singular in the extreme. He brings the power to bear while he is lecturing, and as he seems to rivet the attention by his remarks, your curiosity will be drawn off by the somnambulic sleep of some dozen or twenty persons in various parts of the hall. The effect produced in this way is amusing, to say the least; and when we find individuals in subjugation to this power, whose characters are unimpeachable, how can we doubt the *spell*—the *charm*, or whatever signification you may please to give it?

As we before stated, some of the experiments were very fine. There were eleven patients upon the stage, and what affected one affected the whole. The sympathy was great, and run apparently in a vein through the circle of this little community.

Mr. S. caused one of the young men to see a ghost—without a word being said—and as you could see the countenance change, from a serene look to a frightful and ghastly stare, there would be but little room left in the mind for skeptical evasions. Mr. S. then caused them to see snakes, at which, in the twinkle of an eye, they all burst out into a frenzied shriek, and evinced all those fearful emotions which they would if the scene had been real.

What appeared to be the most pleasing part, was that of a *deaf* woman, who was under this influence—and when, to appearance, they were in the height of ecstatic pleasure, she with the rest, clapped her hands, while in unison they exclaimed—"Oh! how happy we are in this place (the place to which they were in imagination,) we should like to stay here for ever!"

We will here say, that Mr. Sunderland had seven new subjects on the above-mentioned evening—persons he had never before seen, and who had never before been "magnetised."

Mr. S. has left a good and lasting impression, and general satisfaction prevails with regard to his lectures.—*Salem Advertiser and Argus, Feb.* 28, 1844.

* * *

Mesmeric Prevision.

The London Spectator publishes the following singular narrative, with the remark that although skeptical on the subject of mesmerism, it does not hesitate to print it without comment, coming as it does from a "gentleman of careful habits of observation and scrupulous veracity."

Have you courage to give insertion to the following case? It is so singular that I can hardly expect any one to receive it without considerable hesitation; and yet, as I am able to pledge myself to the strict accuracy of its details, and to the respectability of station and high moral worth of the parties to whom it refers, I feel desirous that it should be widely known.

On Monday, the 25th December, I magnetized Mrs. H——, a married lady, twenty-eight years of age. She had been magnetized at intervals during the preceding year, altogether about six times. Upon each occasion she had manifested some degree of lucidity; and in the only instance when the experiment was tried, she had answered readily to the action of my hand upon the various phrenological organs. On the present occasion, I magnetized her solely for the improvement of her health, as she was suffering from weakness and a pain in the breast, the result of a confinement eight weeks back. In other respects her health was good.

In less than two minutes from the commencement of the magnetizing process, she passed into a state of somnambulism. I then addressed her: "How do you feel?" She made no answer. I repeated the question two or three times, without success; but in a few moments she exclaimed, with an expression of great anguish, "Oh, pretty well, but I shall soon be dreadfully ill."

"When shall you be ill? now, while you

are being magnetized?" "No, in two days time."

"At what hour?" "Three in the afternoon."

"Can nothing be done to avert it?" "Nothing."

"What will it result from? an accident, or natural causes?" "Natural causes."

"Can you tell me any thing that can be done? Will magnetism afford you service?" "Yes, it cannot avert the attack, but it may do much good. It will be a spasmodic attack, and after a little while it will extend to the heart. The heart will not be originally affected; but the violence of the suffering will cause it to be affected sympathetically, and there will then be danger. Magnetism may remove this."

"And will it not remove the other suffering? "No." Then, after a pause, she added,—"It cannot remove them entirely; but I think it may mitigate them."

"At what time after the attack should I commence the magnetic passes?" "In about half an hour."

"How long will the attack last?" "From an hour to an hour and a quarter. It will be dreadfully severe; but it will not prove fatal. I shall have more of them. I have much suffering to undergo."

"When will the next attack take place?" "I cannot she."

"What description of passes should I make on Wednesday, in order to relieve the heart?"

"Commence just *under the heart*, and make long passes to the feet."

"During what time am I to continue them?" "About *five* minutes. You must also make passes *across* my back, if possible."

"How long will it be before you cease to suffer from these attacks?" "About eight months."

"Will magnetism benefit you during that time?" "Materially."

She still manifested much apprehension and anguish. "Come," I said, "You must not be sad. I am sure that you can bear pain with patience; and as it will all end well you must not give way to despondency."

"Ah!" she exclaimed, "I think of my children and my husband—I know what he will feel."

I now ceased speaking to her for a minute or two; afterwards I said, "You must tell me if you desire to say any thing more, or if you would rather sleep?" "I think you had better awaken me."

"I *de*magnetized her accordingly. She awoke instantly, and (as on all former occasions) totally unconscious of having uttered a single word. She said, however, that she was not so much refreshed as usual, and that her head felt as if she had been engaged in the most intense thought. To relieve this, I magnetized her again for a few minutes; and when she was again awakened, she stated herself perfectly restored. I then took my leave; previously agreeing with Mr. H—— that no intimation should be given to his wife of what had passed.

On the following day, I saw Mr. H——; when he stated, that during the preceding evening his wife had enjoyed excellent spirits, and that she still continued in a satisfactory state. On the Wednesday morning, he told me that he had left her in apparently good health, excepting that she seemed in a state of depression which almost caused him to apprehend that her prediction would be verified. She was herself, however, free from any anticipation of evil.

In the afternoon, I proceeded to her house, intending to reach it about half-past three, which according to her prediction would be half an hour after the commencement of the attack, the time at which she had stated that magnetism should be resorted to. Having, however, little expectation that my services would be required, (since I was inclined to regard her forebodings merely as the result of a momentary sadness,) I did not pay any particular attention to punctuality, and it was twenty-two minutes to four when I arrived.

I found her extended upon a sofa, in the severest agony. Her pain drew from her repeated cries, and I learned that she had been seized with a violent spasmodic affection.

I immediately commenced making the passes below the heart, which she had directed during her somnambulism on the preceding Monday.

"Does that give you relief?"—"Oh yes; it greatly relieves the heart."

I then raised her to a sitting posture, and commenced the passes across her back.

"Oh! that gives still more relief—it takes it entirely away from the left side; but the general pain remains the same."

She sank, apparently still suffering most severely from attacks of pain in the epigastric region, which seemed to threaten suffocation. She began, however, after I had made a few passes, to experience some short intervals of ease. During one of them I asked, "At what time were you attacked?" —"Half an hour or three-quarters of an hour before you came; nearer three-quarters of an hour."

"Was it sudden?"—"Quite. I was in the passage, and was obliged to call one of the servants to help me to this room. It seemed to suspend animation. In about twenty minutes, or more, it attacked my heart; the blood seemed to fill my head, and

I was much alarmed. It continued till you came; my sufferings were dreadful; but now the pains seem longer to affect the heart."

She still continued to experience paroxysms, which I was only able partially to relieve. At intervals she exclaimed, "Oh, how fortunate you happened to call! I feel as if you had saved me."

She complained of fulness of the head, and directed me to make two or three passes over her forehead; which gave her instant relief. At length at about six or seven minutes past four, the pains seemed rapidly to subside. She fell into a calm sleep, her countenance assuming an expression of perfect composure; and from this, at about twenty minutes past four, she awakened in good spirits, and, though greatly exhausted, perfectly free from pain.

She continued to dwell upon the "fortunate" circumstance of my having called: and I left her in the full belief that the visit had been an accidental one.

Since the above occasion, she has been magnetized several times; and she now predicts with rigid accuracy the state of her health for several consecutive days. On the 7th of this month, she announced a slight attack to occur at eleven o'clock on the morning of the 11th, which would not extend to the heart, and another severe attack at three P. M. on the 15th, in which that organ would again be compromised. On both occasions the prediction was fulfilled even in its minutest particulars.

I may mention, in conclusion, that until the attack above described, she had never experienced any indisposition in which the heart was supposed to be in the slightest degree affected.

Deluze gives many cases of previson in the somnicient state, and they are of common occurrence in this country.

Treatment of Fever.

By Charles Cowan, M.D., E. & P.
Physician to the Royal Berkshire Hospital, &c.

Dr. Cowan has not said much respecting his own practice, as the type of fevers in his own neighborhood of Reading has seldom been found severe; but he has taken pains to collect the experience of others, which is as follows:—

We shall now briefly advert to the experience of others in the treatment of fevers, selecting that which may not have sufficiently attracted the student's attention. A surgeon in extensive practice has found the following powder very advantageous in 140 cases of simple fever, continuing its use until the gums were slightly affected:—

℞. Nitrate of potash, four grains; tartrate of potash, a quarter of a grain; mercury with chalk, five grains. Mix. Repeated every four hours

And in all fevers of a low type he was convinced of the benefit of the saline treatment. His formula was—

℞. Chloride of soda, three drachms; carbonate of soda, two drachms; hydrochloric acid, half a drachm; camphor mixture, six ounces. Mix. Half an ounce every hour.

He founded his experience upon notes of 120 cases.

In reference to the use of mercury, Dr. Macartney says, "In no single instance have I known mercury fail in arresting the progress of fever, provided it be not combined with visceral affections, or characterised from the beginning with great prostration of strength."

Mr. R. Stevens (Lancet, 25th June, 1842,) asserts the value of mercury in all contagious diseases, and he has met with more than ordinary success since employing it in the treatment of fever.

Dr. Elliotson, and many other writers, speak favorably of the mild use of mercury in this disease; and when the type was inflammatory, it might, perhaps, be always judiciously prescribed.

Case of Poisoning by Colchicum.

By A. T. Thompson, M.D.,
Physician to University College Hospital, &c.

The subject of the following case, John Goodrich, was ordered in a public institution six drachms of tincture of colchicum in a half pint mixture of Epsom salts, of which he took one ounce every six hours. It was ascertained that a larger quantity (six oz.) of the colchicum had been put into the bottle than was prescribed. Vomiting soon commenced after the first dose, and after the third the nose began to bleed profusely, accompanied with violent purging. Notwithstanding these violent symptoms, the medicine was continued. His medical attendant found him sitting up in bed, with his back reclined against the wall, his arms hanging listlessly beside him, his head bent forward upon his breast, and his shirt drenched with blood from his nostrils. His mouth was open, his eyes were staring, full, and turgid; the vessels of the adnata congested, and the pupils dilated; pulse 170, full, bounding, and incompressible, and respiration short and hurried. Thirty ounces of blood were taken from the arm, and a mixture containing potass, carb. and liq. opii sed. was prescribed, followed by port wine and cinchona bark. This treatment seemed to rally the patient, but he ultimately relapsed and died. But we have condensed this case chiefly to hang a practical remark upon it, made by Dr. Thompson, which is as follows:—

On reviewing the treatment of this important case, I have little to remark, except that it is probable, had my assistance been sooner demanded, I should have opened the temporal artery, instead of bleeding from the arm. I am of opinion, that in the early stage of poisoning by an *acrid*, or a *narcotico acrid poison*, the poison is circulating in the blood, and that much benefit would result from rapidly abstracting a large portion of it from the vicinity of that organ, upon which much of its energy is exerted. By such a practice, also, the sympathetic irritation would have been greatly lessened, and time would have been thus afforded for providing against the collapse, which, in all these cases, is the result to be dreaded.—*London and Edin. Mon. Jour. of Medical Science, June*, 1843, *p.* 540.

Chronic Hydrocephalus treated with Ipecacuanha, in Form of Liniment.

In Dr. Hannay's Dispensary cases is the following one of chronic hydrocephalus, which is said to be congenital:—

The infant was in its eighth month, and the head had acquired a size much beyond natural. It presented an unnatural expression, looked languid and inactive; squinting, vomiting, and costive bowels. It had been several times attacked with convulsions, after which it lay comatose for several hours. The fontanels were large and full. I directed diuretics (nit. pot. and pulv. ipecac.) as I have a notion that to increase the urinary is, on many accounts, very advantageous in this disease. But it is to the effect of a liniment composed of powdered ipecacuanha root, from which decided benefit was derived in this case, that I request space for a short memoir of my trials of this remedy, first suggested to me by my accomplished colleague, Dr. Easton, Professor of Materia Medica in Anderson's University. To that gentleman I sent the following results of my experience of this new counter-irritant, and beg to offer it as the therapeutic parts of my gleanings. The formula I adopt is as follows:—

℞. Ipecac. Pulv.; Olei Oleæ Europ, aa,
ʒij.; Adipis Suill. ℥ss.; M.
opt. fiat linimentum fricando admovendum.

The part we wish to irritate is to be rubbed freely with this liniment for fifteen or twenty minutes three or four times daily, and enveloped in flannels. This produces, in about thirty-six hours, or sometimes sooner, very numerous small papulœ and vesicles, seated on a deep red base of irregular extent. They become flattened in a short period, and assume the pustular character. Many of them run together; are confluent. The part feels hot to the hand of another, and a tingling sensation, never amounting to pain, is experienced by the patient. The eruption endures very vividly for a few (three) days, during which the pustules become covered with a scab-like scale, and fall off, leaving no mark. They never ulcerate, as do the pustules from the tartrate of antimony. I regard the ipecacuanha as a very valuable addition to our counter-irritants. It is not over severe, as the tartrate is occasionally found to prove. Yet, with all its moderation, it is very efficient, and extremely manageable. In feeble, young, and very irritable persons, it will, I feel assured, prove a very suitable counter-irritant. I specially beg attention to the use of it in the head diseases of a chronic kind in infants and young children. Many of these cases follow the suppression of eruptions and scabbed diseases of the scalp. Now, the ipecacuanha liniment produces a scabbed state of the scalp, as nearly resembling the affections in question as can be imagined, and maintaining a counter-irritation on the surface which I have proved, I think, to be a very valuable agent of this nature.—*Ed. Med. and Surg. J., Oct.* 1843, *p.* 321.

Inspissated Bile.

We have several times alluded to the exhibition of inspissated ox-gall, as a remedy for constipation, &c. We find that the inspissated bile of the swine has been used in America since 1828, for this and other purposes. In a communication on fever by Dr. Mettauer, we have the following:—

Another modification of the ipecacuanha pill employed by us, was the combination of two or three grains of the inspissated bile of the swine, with one grain of ipecac. and two of the carbonate of potass; this compound was most valuable in this stage; and it seemed to act with decided effect, as a supporting and secerning remedy, upon the mucous membrane of the stomach and intestines, and as a diaphoretic at the same time. It was especially valuable in those cases attended with a denuded and raw tongue; this organ always becoming more healthy after its administration.—*Amer. Jour. of Med. Science, July*, 1843, *p.* 52.

Treatment of Croup with Sulphate of Copper.

By Dr. Schwabe.

This invaluable medicine in croup, first recommended by Serlo, has been used in more than fifty cases by the writer. He generally begins the treatment by applying from four to twelve leeches to the larynx, and then orders 1 1-2, 2, 3, and occasionally even 4 grains of sulphate of copper, mixed with a few grains of sugar, to be taken every half hour or every hour, according to the urgency of the symptoms. Each dose is followed by vomiting, which, scanty after the first dose, is always copious after the second, and is continued so long as thick mucus or membranous concretions are apparent in the matters ejected. The patient then takes half a grain of the sulphate every hour, until several dark green motions have been discharged, to effect which from eight to twelve doses suffice.—*Casper's Wochenschrift, No.* 9, 1843.—*Lond. and Edin. Mon. Jour. of Med. Science, Sept.* 1843, *p.* 834.

Treatment of Volvulus.

Mr. Pilcher has recorded a case of volvulus occurring in a child, in which all the remedies commonly employed for the removal of the disease had been unavailingly employed, when he was induced by the recollection of a former case, to order thin gruel to be injected by the rectum until the lower intestines had become completely distended, regurgitation being prevented by pressure around the anus. The effect was almost immediate, the obstruction giving way, and the patient completely recovering.—*Prov. Med. Jour. May* 6, 1843, *p.* 122.

Value of Antimony in Mania.

Dr. Sutherland states that the employment of antimony in the treatment of mania is of the highest value. A fourth of a grain of the potassio-tartrate may be given every fourth hour, or at the commencement of the paroxysms of furor. It is powerful as a means of controlling the action of the heart and arteries. In many cases in which it has been given, it has acted like a charm in instantly subduing the excitement and violence of the patient; and in some cases an alteration in the symptoms for the better has been traced from the commencement of its administration.—*Prov. Med. Jour., July* 22, 1843, *p.* 342.

Dartres of the Perineum.

Dr. Barosch, of Lemberg, was consulted by a young man, about twenty-eight years of age, for a dartrous eruption affecting the perineum and scrotum, with which he had been afflicted from his sixteenth year, and the irritation from which was such as to cause him to be continually applying his hands there, so that he was obliged to avoid society. He had consulted the most famous physicians in Hungary, but the only thing that seemed at all to relieve him was the cold water hip-bath. When he consulted Dr. Barosch, he was exhausted by suffering, insomnia, loss of appetite, and despair; the skin was dry; the entire perineum, scrotum, and internal surface of the thigh, were covered with deep brown, hard crusts, surrounded by bleeding fissures, caused by the nails of the patient. Below these crusts, the skin was hard and thickened. The fall of crusts alternated with an acrid discharge. Kœchlin's liquor having failed, Dr. Barosch prescribed the external application of iodine as follows:—Fifteen grains of iodine and two scruples of hydriodate of potass, dissolved in five ounces of distilled water, and one ounce of spirits of wine; make a lotion. The topical application of this solution continued for several hours, caused at first a burning sensation, which was, however, very tolerable, and was soon followed by a relief such as the patient had not experienced for two years. The use of this lotion was continued for three weeks, the patient taking baths frequently during that period, at the end of which time the cure was complete.—*Oesterr. Medicin. Wochen.*—*Provincial Med. Journal, April* 29, 1843, *p.* 99.

Compression in Chronic Hydrocephalus.

M. Hirsch has published another example of the efficacy of compression in cases of chronic hydrocephalus. A child, eleven months old, labored under this affliction; the head was large, tontanelles open, and all the sutures widely separated. The lower extremities were paralysed. On the 11th of May, a mixture, containing infusion of bark, digitalis, and sweet spirits of nitre, was administered, and mercurial frictions were made on the head. The paralysis gradually disappeared under the influence of this treatment. On the 28th the head was enveloped with strips of sticking plaster, which compressed it on all sides; the plaster was renewed on the 28th of June and 4th of September, and in February it was found that the fontenelles and sutures were completely ossified. The child had begun to walk and speak.—*Casper's Wochen.*—*Provincial Med. Journal, April* 29, 1843, *p.* 101.

Pilula Ferri Comp.

Several methods of preparing this pill have been recommended to preserve the carbonate of iron undecomposed, and to insure the uniform consistence of the mass. This can be made according to the directions of the Pharmacopœa by an attention to the following particulars:—

Dissolve the sulphate of iron, finely powdered, in treacle, with a moderate heat, and add the carbonate of soda, stirring constantly until the effervescence has entirely ceased, and the mixture has become cool; then add the myrrh gradually, and incorporate the mass. As a little evaporation takes place at the commencement of the process, a small excess of treacle is requisite to supply the deficiency. This mass retains its color and consistence remarkably well.—*Pharm. Jour. July* 1, 1843, *p.* 36.

Treatment of Diabetes.

An interesting case of this affection is published by Mr. Hodges, of Downpatrick, in which the nitrogenizing plan of treatment so ably recommended by Dr. Barlow, of Guy's Hospital, was attended with excellent results. The treatment was commenced by giving five grains of the sesquicarbonate of ammonia every three hours, with coffee and bacon to breakfast, animal food and cruciferous vegetables for dinner. The skin was stimulated by friction, and the patient well clothed with warm flannel. In four days the urine was diminished in quantity from twenty-four to fourteen pints daily. The ammonia was then increased to five grains every two hours, and very soon the quantity of urine voided was only eight pints daily; in thirteen days more only five pints; and in twenty-one days the drink taken in the twenty-four hours was two pints, and the urine four pints.—*Medical Gazette, July* 7, 1843, *p.* 525.

Incontinence of Urine successfully treated by Nitrate of Potash.

Dr. Young, of Chester, Delaware County, has found that this medicine, given in ten-grain doses every three hours, has had a very excellent effect in checking this troublesome affection. In several cases where tinct. lyttæ and other means had failed, this medicine was given with complete success. He supposes that its good results may be owing to its increasing the irritating properties of the urine, thus making it more stimulating to the bladder or its sphincter. If so, he also thinks that other preparations of potash, soda, &c., may be used when the nitrate fails. —*American Jour. of Med. Science, April* 1843, *p.* 371.

Elder Bark in Chronic Dropsies.

The decoction and extract of this vegetable substance are reported to be remarkably efficacious by hydragogues, producing so speedy an effect on the urinary and fæcal secretions as to make it needless to use more than two or three applications. The proportions for the decoction consist of a couple of handfuls of the bark to a quart of water; dose, a wine glassful a day. The extract is administered in France in the form of pills, of one and a half grains each, of which from six to ten are taken in the twenty-four hours.—*Journ. de Med. et de Chir. Pratique.—Lancet, June* 1843, *p.* 340.

Aphonia cured by Galvanism,

Theodore Mandurik, a Dalmatian, twenty-four years of age, of sanguine temperament and a robust constitution, and who had usually enjoyed good health, killed one of his countrymen in a quarrel, for which offence he was incarcerated in the prison at Scardona. Three days afterwards he was attacked by a violent fit of epilepsy, followed by entire loss of voice, to restore which external local and general bleedings, and antiphlogistic measures of all kinds were employed without effect. In a few months he was removed to the central prison of Zara, where he was examined by the medical staff. The tongue was somewhat enlarged, and preternaturally reddened, though dry, and the blood-vessels around its base were much distended. The sense of taste was uninjured, but the movements of the tongue and of the larynx were performed with difficulty.—Leeches were now applied to the sides of the tongue; tartarised antimony, in both large and small doses, and drastic purgatives, were employed, and a tartar emetic plaster was placed over the larynx; but all these means failed to restore a healthy action in the parts adjacent, and Mandurik was still compelled to keep his mouth partially open to maintain respiration, a function only performed by short and difficult inspirations. At length, about sixteen months after the attack, the voltaic pile was thought of, and a battery of fifty pair of plates was employed. The positive pole was placed over the cervical vertebræ, and the negative upon the parts affected. On the first day two hundred shocks whre given, and on the second three hundred, but no perceptible effect followed. Two days were suffered to elapse, and a battery of 70 pair of plates was then used, with which about three hundred shocks were given. The patient was found acutely sensitive to the action of electricity, and a lapse of five days was permitted to intervene before its fourth application, which consisted of four hundred shocks with the lattter-named battery. Whether these had been administered too precipitately, or whether his system had become more excitable by galvanism, the patient, after this last application, became much agitated, and subsequently fainted for a short time. Next day he suffered intense headache, his face was flushed, eyes lustrous, pulse full and strong, from which state he was relieved by copious bleeding. But he now, for the first time, gave utterance to hoarse sounds. After six more days the battery of fifty pairs was again employed, and three hundred shocks were given. The same treatment was repeated every two or three days, and then, at similar intervals, four hundred shocks were given with the seventy-pair battery. The voice, meanwhile, and the motive powers of the tongue and larynx, gradually returned to their normal condition, and after the twelfth application the patient had completely recovered. The deduction drawn by the surgeon who has reported the case is, that no nervous affection whatever should be regarded as incurable till electricity in some form has been tried and found to fail.—*Lancet, May* 27, 1843, *p.* 291.

Reduction of Femoral Hernea on Dr. O'Beirne's Plan.

We have repeatedly referred to this plan of reducing a strangulated hernia, but as every fresh fact in corroboration of it is satisfactory, we subjoin the following case by Mr. Collambell, of Lambeth. It was that of a woman, æt. 51, ruptured 24 years ago. All the symptoms of strangulation being present, the taxis being used for a considerable time, and various other measures resorted to without avail, Dr. O'Beirne's plan was tried as follows:—

I introduced, says Mr. Collambell, the elastic tube of the stomach-pump into the rectum, and passed it the distance of twelve inches. I then attached the syringe, and slowly injected two quarts of warm water. When half of that quantity had been thrown up a gurgling was distinctly heard in the tumor, and it gradually became less tense. Having injected all the water, I removed the syringe, and allowed it to run off by the tube; I then reapplied the syringe and continued exhausting the air, when, after a few minutes, I had the gratification to find the hernia gradually subsiding, and, by keeping up gentle pressure, the contents were returned into the abdomen. My patient immediately pronounced herself relieved; her countenance became cheerful, and the sickness abated; she was ordered a brisk aperient of magn. sulph. and aq. menth. pip. and a dose of calomel and opium. The bowels acted freely on the following morning, and she is now as well as usual.—*Lancet, April* 29, 1843, *p.* 155.

Strabismus.

M. Jules Guerin has published a second Memoir on Strabismus, devoted to a rational and experimental inquiry into the distinction between the optical and the mechanical forms of the disorder; a former memoir, published in the same journal the 3d April, 1841, having treated principally of the mechanical or primitively muscular form.

Optical strabismus, the principal subject of the present paper, the author defines as a consecutive of secondarily muscular deviation of the eye, consequent on a disjunction of the axis of vision and the axis of the eye. This disjunction may be produced in three ways; 1st, from an obstacle to the passage of visual axis along the course of the ocular axis; 2ndly, by a change of relation in the refracting media without alteration of their transparency; or, 3rdly, by an insensibility of the retina at the proper point for the reception of luminous rays. The first is characterised by the squint existing only while the patient is looking at an object. In these cases the two visual axes, though no longer concurring with the ocular axes, converge towards one point. A squint, then, existing only during active or intentional vision, cannot depend on permanent muscular contraction. A young person aged 19, who had a moveable clot of blood in the posterior chamber, was observed to squint from the attempt to place a transparent portion of the medium opposite to the object looked at, and thereby to avoid the inconvenience produced by the presence of the clot in different parts of the chamber. As soon as she ceased to look at an object, she ceased to squint. A disturbance in the relation of the refracting media, the author thinks is the only way of accounting for some cases of strabismus which are produced suddenly after a blow, or a jarring fall on the seat or on the feet. The first effect of displacement is double vision; and the squint, at first temporary, lasting only during attentive vision, is gradually made permanent by the repeated endeavor to escape from this fatiguing symptom.

The third form, viz., from partial paralysis of the retina, is more difficult of actual demonstration, though its presence may be inferred by induction rigorous enough for practical purposes. Amaurotic patients, when endeavoring to distinguish a light, are seen to turn the eye in different directions where they know the light does not exist; they present the various surfaces, as it were, feeling for it. Those in whom the paralysis is but partial, contract a habit of subjecting to the influence of the rays that part that is most sensible. The author believes that in no case of secondary optical strabismus will the texture of a muscle be found fibrous, and that in no case of primary mechanical muscular strabismus will such a fibrous state of the muscle be

wanting. Where myotomy has been performed in cases of optical secondary strabismus, he believes that one of three things must have happened—either the case has not been watched long enough to ascertain the result, or a positive failure has followed, or the primary cause, whatever it may have been, has really been removed by the operation. The author adds a summary of the distinctive characters of the two kinds too concise to be materially abridged, but too long for our pages.
Medical Gazette, May 12, 1843, *p.* 254.

Electro-puncture in the treatment of Deafness, depending on a Paralysis of the Acoustic Nerve.—By M. Jobert.

The paralysis of the acoustic nerve may be produced by exposure to a current of air, to too great a shock of the head, to waves of sound too violent, to affections of the teeth or of the gums. Electro-puncture has been already employed in these cases, but it had fallen into disrepute. The author believes that he uses it in a manner more direct and more rational; here is his proceeding:—Stard's sound, he says, is introduced through the nasal fossa into the eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the eustachian tube, while the other end projects from the end of the sound; another acupuncture needle is implanted in the membrane of the tympanum. This being done, one of the conducting wires of a galvanic battery, of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. I have used, in the beginning, eight pairs of the battery, then I got to ten, to twelve pairs; finally I have been as high as eighteen, and at present I have patients who have undergone several sittings, and on whom I have acted with the entire pile, the touch of which contains forty metallic pairs. At the moment that the two poles are put in contact, there is a very painful shock in the ear and in the head, with convulsive motions; but this shock and this pain cease immediately. In a single patient the impression was felt during eight days, but it never extended beyond a slight pain, which ceased of itself. It must be added, that the patients who were submitted to electricity in this manner, were, during some moments, as if stunned, and preserved some time after the experiment a bewildered look. The sitting was usually confined to a single shock when the patients were irritable; I have given two and even three shocks in people whose sensibility was obtuse, and who have been already submitted to electro-puncture. In general I allow eight days to pass between each trial. The author then relates four cases of well marked deafness, and in which the cure was complete; in the first after a single shock, in the second after two shocks, and in the third after two sittings, each composed of three galvanic shocks.—*L'Examinateur Medicale.—Medical Gazette, June* 2, 1843, *p.* 356.

Oil of Turpentine in Night Blindness.—By Charles Kidd, M. R. C. S., Medical Attendant of the Doonass Dinpensary.

In two cases of this description, in which the patients were seized with a total blindness every evening, the moment the sun set, although in other respects perfectly well, Mr. Kidd tried the whole routine of medicines without effect. The iris alone showed symptoms of disease; the rest of the eye was healthy. The iris was very interrupted and sluggish in its movements, and evidently very insusceptible of its usual stimulus, the pupil contracting very little even on the approach of the strong glare of the sun.

Being aware of the action of turpentine on this part of the eye. Mr. Kidd ordered the following mixture with excellent effect:—

℞. Ol. terrebinth; ol. ricini, aa. ℥j.; mist. camphoræ, ℥iv.; liquor. potassæ, ʒi.; træ. opii. gtts. x. Ft. mistura.

Half an ounce to be taken every night and morning. The patients were cured in a few days.—*Dublin Medical Press, May* 10, 1843, *p.* 292.

It is often difficult to continue the use of turpentine on account of its disagreeable nature. Bouchardat recommends the following formula:—

Take of gum accacia, ten grammes; mix it with ten grammes of water; add of white honey, fifty grammes; oil of turpentine, fifty grammes; carbonate of magnesia, q. s. Make a soft electuary.

The dose is from 2 to 10 grammes (36 to 180 grains) a-day in unleavened bread. In some cases a little laudanum may be added.
Medical Gazette, Sept. 22, 1843, *p.* 912.

How to make Leeches Bite.

The leech which it is intended to apply, is thrown into a saucer containing fresh beer, and is to be left there till it begins to be quite lively. When it has moved about in the vessel for a few moments, it is to be quickly taken out and applied. This method will rarely disappoint the expectation, and even dull leeches, and those which have been used not long before, will do their duty. It will be seen with astonishment how quickly they bite.—*Medical Gazette, June* 23, 1843, *p.* 480.

Researches into the Nervous Influence supplied by the Par Vagum.

M. Stilling, whose researches on the nerves was noticed in the last volume of The Lancet, has been led to the following conclusions respecting the functions of the par vagum and some of its branches.

The par vagum is both motor and sensitive. The superior laryngeal nerve is solely sensitive, having no effect to produce motion in the glottis. The recurrent nerve is motor, and sensitive also, though in a less degree than the superior laryngeal. The glottis and the whole larynx derive all their sensation from the first named branch. The trachea derives its sensation from the recurrent branch, and the lungs from the branches of the par vagum, which they receive. The glottis depends for motion on the recurrent branch, and not at all on the nervus, accessorius. Irritation of the roots of the vagus nerve within the skull causes the same result as irritation of the recurrent branch. The quality of the voice is dependent on the condition of the superior laryngeal nerve, and the degree of harmony between this and the recurrent branch.

With regard to the motions of the pharynx: in ordinary respiration the pharynx is closed; it is only in abnormal circumstances that it contains air. In most animals the pharynx manifests a contractile action or vibration of its muscular fibres during expiration; this action is not perceived in inspiration. The section of the par vagum determines a contraction of the pharynx, as does irritation of the recurrent and superior laryngeal nerve.—*Schmidt's Jahrbuch* 36; *Haeser's Archiv.*, 1842.

Medical use of Saffron.

In several cases of obstinate chlorosis that had not yielded to preparations of iron, in one case of puerperal fever in which digitalis and bleeding had failed, and in two cases of chronic artero-phlebitis, Dr. Morgante, of Verona, reports that he has employed saffron with the greatest success, commencing with doses in the form of pills, amounting to sixteen grains in the twenty-four hours, increasing the doses until the quantity is doubled. As to the manner in which this medicine acts—it is reported to be particularly effective in cases of increased action of the capillary vessels, and analogous in its effect to the more active preparations of iron.—*Memoriale della Medicina Contemporanea.*

Facial Neuralgia.

An ointment composed of veratria, one part, to eighty parts of lard, has been found very useful as an external application in cases of facial neuralgia. But the preparation is much more efficacious if made with rancid instead of fresh lard, which is probably owing to a salification and greater solubility effected in the veratria by the agency of the free acid in the fat.—*Revue Scientifique.*

Lancet, May 27, 1843, *p.* 304.

Black Drop reduced to the strength of the Tincture of Opium.

Take of hard opium, powdered, ℥iij; citric acid, powdered, ℥iss; boiling water, ℥xv; rectified spirit, ℥xxv. Pour the boiling water on the opium and citric acid; macerate for twenty-four hours; add the rectified spirit; again macerate for fourteen days, and strain.

Lancet, May 20, 1843, *p.* 304.

Treatment of Dropsy.

The main object in the treatment of ascites is, of course, to excite the organs, by the aid of which nature herself expels the serious secretions of the abdominal cavity; and accordingly such diuretic and drastic agents should be employed as are most likely to act at the same time on the absorbent system, the urinary organs, and the intestinal tube. In combination, also, with medicinal agents, a diet should be adopted at once solid and tonic, composed principally of broiled or roasted meats, toasted bread, &c., with small quantities of red or white wine; but on no account should the patient have recourse to toast and water, broths, gruel, or such like drinks; in fact, the principle should be to drink as little as possible, and instead of liquids to use jellies, oranges, and fruit generally, by way of demulcents. M. Delreyne, who advises the above regimen, recommends the following diuretic wine as suited to weaker subjects:

℞. Nitrate of potash, three drachms, and juniper berries, fifteen drachms, to be steeped for twenty-four hours in a bottle of wine water; dose, a glass daily.

This stimulant is especially useful in incipient dropsy, and cases of œdematous swellings of the extremeties.—*L'Experience.*—*Lancet, May* 20, 1843, *p.* 253.

Counter-Irritants in Bronchitis.

Dr. Graves, in his work on clinical medicine, makes some excellent remarks on counter-irritant remedies, which are to be applied not merely over the chest, but to the nape and along the sides of the neck, over the epigastrium, and in the course of the cervico-spinal and pneumogastric nerves generally. He thinks that—

The spirit of turpentine exercises something more than a mere counter-irritant action, and proposes the following formula for imitation.

Strong acetic acid, ʒss; spirit of turpentine, ʒiij; rose water, ℥iss; essential oil of lemon, a few drops; yolk of egg, sufficient to suspend the turpentine.—*British and Foreign Medical Review, July* 1843, *p.* 246.

Cæsarean Section.

A woman, aged thirty-one, who had borne five children naturally, was attacked with violent arthritis, during her sixth pregnancy. The pelvis became so deformed that the finger could scarcely be introduced between the tuberosities of the ischum and the ascending rami, on either side; the pubes also formed a very prominent angle, the sacrum projected much forwards, and the os uteri could not be reached. On the 27th of July, 1840, labour having commenced, and the contraction of the pelvis diameter being well ascertained, the Cæsarean section was determined on, and was performed in the linea alba by Dr. Arnoldi. The results were most fortunate; the mother nursed the child herself, and the wound healed by the beginning of September. *Prov. Med. Jour., Oct.* 21, 1843, *p.* 60.

Cure of Venereal Warts.

Francis states that two remedies which he had tried for the extirpation of venereal warts, have always perfectly eradicated them, namely powdered savine and a solution of lunar caustic; the first to be applied to the warts every night, taking care previously to wet them, in order that the powder may adhere to them. The quantity ought not to be more than will lie on the top of a good-sized horse-bean. Applied every night for a week or ten days, this remedy will, it is said, cure them effectually. Should this, however, not be considered powerful enough, the savine may be sprinkled every night, and on the following morning a solution of nitrate of silver (four grains to the ounce) may be applied. These two remedies Mr. Francis always employs, and has never found them useless.—*Med. Chir. Rev., July,* 1843, *p.* 281.

Rupture of the Uterus—Recovery.—By M. Vaulpre, M.D.

The patient in this case was in her 19th year, and confined for the first time. Delivery was attempted by the long forceps, but in vain; the head of the infant had to be opened, and delivery was accomplished by means of the hook. In passing the hand into the uterus, a longitudinal rent was discovered, corresponding to the right fossa, and from six to seven centimetres in length. The hand, when passed into the gap in the uterus, came in contact with the mass of the small intestines. A month afterwards the uterus contracted, and the tear in its substance could no longer be perceived. The patient was alarmingly ill. She vomited, had hiccup, violent pain in the abdomen, &c. Nevertheless she did not die; on the contrary, after several days passed in a state between life and death, she began to improve, and finally recovered.—*Lond. and Edin. Mon. Jour. of Med. Science, July* 1843, *p.* 651.

Disease in the brain, spinal cord, heart, lungs, stomach, intestines, liver, kidneys, or other vital organs, is characterised more by disturbances of function in those organs than by pain.—*Dr. Bellingham.*

A short time since an ox was killed at Waltham and on proceeding to cut it up, a live snake, perfect, with the exception of the scales, was found in the caul of the animal. It measured two feet six inches in length.—*English paper.*

Leeches have been found in the liver, and snakes in the stomach of human beings in this country.

Revelations by Mesmerism.—The Pennsylvanian, of Philadelphia, translates a strange narrative from a Dutch paper. A little girl, five years of age, was drowned near Dresden, while amusing herself with some playmates, who were afterwards unable to point out the place of the catastrophe. The parents applied to Amelia Klunger, a celebrated somnambulist, and she immediately told them where they sould find the body, which they did, in the very spot she named, and they returned her their thanks in the newspapers. The affair has created a sensation in Dresden.

Naptha—its *curative* effects in tubercular consumption—a humbug.

Errata, in our last number p. 13, &c., for decollionth, read decillionth.

Errata, in this number p. 61, for Nagnetism, read Magnetism; p. 87, for replex read reflex.

THE DISSECTOR.

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FALLACIES OF THE FACULTY.

Ague—Spasmodic and Paralytic Disease—Disorders of Sensation.

LECTURE II.

In our former Lecture, gentlemen, you will remember that, after a brief allusion to a few of the many errors which, from time to time, have prevailed in the schools, we took a more simple, though, at the same time, a much more bold and sweeping view of the subject of Medicine than would appear to have hitherto come within the grasp of teachers and professors. The nature of Health and Sleep, of Death and Disease, we in some measure explained;—and we proposed, as matter for future argumentation, that INTERMITTENT FEVER OR AGUE is the likeness or *type* of all the maladies to which man is liable,— referring, at the same time, to certain natural analogies in the world around us; and hazarding the statement, (which until we prove, we by no means wish you to take for granted) that the chrono-thermal or ague medicines are the most generally influential in the treatment of every kind of disease. Let it not, however, be supposed that in our high estimate of this particular class of remedies, we reject, in practice, any earthly agent which God has given us; for there is no substance in nature which may not be turned to good account by the wise and judicious physician. Besides the chrono-thermal remedies, which we chiefly use as remedies of *prevention*, we possess a multitude of powers which have all more or less influence upon the human body, both in health and disease: and though few or no substances can act upon any part of the frame without implicating every other part, yet do we find that certain medicines have relations of affinity to particular organs of the body greater than to others—some affecting one organ, some another. Of this class, Vomits and Purgatives, as (their names import.) Mercury, Creosote, Cantharides, and the various Gums and Balsams, are the principal: Iodine, Lead, the Earths and Acids are also examples.—But while, in the more simple cases of disease, the chrono-thermal medicines, singly, will answer every purpose,—particular cases of disorder will be more efficiently treated with alternations and combinations of both classes, than by the exhibition of either simply. Of the action of remedies of every kind, we shall speak more particularly when we come to treat of individual substances.—For the present, we shall content ourselves with repeating what we stated in our former lecture, in connexion with this subject, that the action of REMEDY and CAUSE, in every case, comes at last to the common principle of their capacity *Electrically* or *Galvanically* to affect temperature or motion—change in one never taking place without change in the other. It will be a subject of gratification to pursue DISEASE through all its modifiations and varieties, step by step, and to show you the source and the extent of our influence over it,—for which purpose we shall call our different witnesses before you in the shape of Cases,—taking these, as often as possible, from the experience of others, and when this fails us, from the results of our own practice; leaving *to you*, of course, to compare and cross-examine these last at your leisure, with such facts and cases of a similar description, as may come before you during your attendance at the various hospitals with which you are respectively connected. Of this we feel assured, that whether or not you individually pronounce a verdict in our favour upon all counts, you will at least collectively admit that we have compelled you to alter your sentiments most materially upon many measures which you previously supposed to be as unquestionable in practice as they were orthodox in precept. But if, according to Lord Bacon, "disciples do owe unto masters only a *temporary* belief, and a *suspension* of their own judgment *until they be fully instructed*, and not an absolute resignation or perpetual captivity," you will not be sorry to escape from the thraldom of men who, when asked for bread, gave you a substance which, in the darkness of your ignorance, you could not by any possibility tell was a stone! No longer mocked by mystic gibberish, you will now take your places as judges of the very doctrines you formerly, as pupils, implicitly and without examination believed; and according to the evidence which I shall bring before you, you will pronounce between your teachers and me—whether the infinity of distinctions and differences, upon which they so pride themselves, be founded in nature and reason,—or whether, in the words of the same great philosopher "all things do by *scale* ascend to UNITY, so then, always that knowledge is worthiest which is charged with least multiplicity."

Gentlemen, there was a time when the greater number of people imagined that the only thing worth acquiring in this life, was a knowledge of the dead languages. A new era has since sprung up, and mankind have begun to appreciate the advantages to be obtained from an acquaintance with the chemical and physical sciences. They now prefer the study of the natural bodies around them, to pedantic discussions about Greek articles and Latin verbs. It is only in the cloisters of Oxford and Cambridge, that men sneer at "utilitarianism," or in that antiquated off-shoot of these monkish institutions —*the College of Physicians.* Railroads, steam-boats, galvanism, and gas, have all come to light within the last half century. A revolution in thought and action has been the result; petty odjects have given way to comprehensive views,and petty interests have been destroyed by the general improvement that has already been accomplished. Is Medicine the only branch of human knowledge destined to stand still, while all around it is in motion? Is the march of intellect to sweep on and on, and leave behind it this so-called science, untouched and unimproved in its progress? When the monarchs who have successively wielded the medical sceptre—who each in their day were looked upon as demigods in physic, have in turn declared that all that they knew of it was that "they nothing knew," shall blame be attached to him who would attempt to rescue his profession from this worse than darkness visible? If, by their own confession, the Knightons and Baillies were ignorant of the first principles of correct practice, surely it were but charitable to suppose that men so intelligent and sagacious on most other matters may, in this instance at least, have pursued a deceptive mode of investigation? Like the racer on the wrong road, how could they in that case get to the end of their journey? Pursuing their professional studies chiefly in the dead house, these physicians forgot that medicine has no power over a corpse. Gentlemen, the reflections which I shall have the honor to submit for your consideration, were the result of observations made on the ever-shifting motions of the living. Who will tell me that this kind of study is only proper for medical persons? Who shall say that this description of knowledge may not be made interesting to the world at large? Greek, Latin, High Dutch, and Hebrew,—are these repetitions of the same *signs* more important than an enlarged knowledge of the *sense*—more instructive to those who pursue them as a study, than a consideration of the revolutions and constantly changing relations of the matter of their own bodies? Without a proper knowledge of the laws of your own organization, how can you possibly put in practice the Greek maxim, "Know yourselves?"

Having premised this much, I now come to consider in detail the phenomena of

INTERMITTENT FEVER OR AGUE;

for ague being the type of every other modification of disease, it is necessary you should be well acquainted with its principal symptoms. I have already told you there can be no disease, no morbid *motion* without change of *temperature.* The subject of ague, then, among other sensations and changes, successively experiences a CHILL and HEAT, followed by a profuse PERSPIRATION. These three stages, commonly called the Cold, Hot, and Sweating stages, constitute the PAROXYSM or FIT. The patient, during each stage, is consequently in a different condition of body from either of the others; his sensations, moreover, differ during each of them. To the state of Perspiration, which terminates the fit, an INTERMISSION, or interval of comparative health, succeeds; and this interval of immunity from suffering usually lasts one, two, or more days, (giving rise to the terms *tertian*, *quartan*, and other agues, according to the interval of duration), before the recurrence of another similar fit;—such fit generally making its invasion with a wonderful degree of exactness at the same hour of the clock as the former, and lasting about the same time,—when it is again followed by a similar periodic intermission of the symptoms as before. In all the stages of the fit, every function of the body is disturbed—some more, some less. During the cold stage, the face becomes pale, the features shrink, and the muscles are tremulous or even spasmodic: the patient, in other words, shivers, has cramp, and his strength is prostrate. The breathing and circulation are variously altered,—his urine, if he passes any, is generally pale and plentiful, and his other secretions are similarly changed in quantity and quality. The senses and mental powers are for the most part depressed, or even curiously vitiated, though sometimes they are preternaturally exalted. A gentleman, who was recently my patient, informed me, that during the cold stage his intellectual powers were more than usually clear, and his sensations throughout highly pleasurable; he felt as if under the pleasurable feeling produced in some people by opium; but this kind of feeling is more frequently an accompaniment of the hot stage. The patient has nausea and loss of appetite, sometimes sickness; less frequently looseness of bowels,—or he has hunger amounting to voracity,—and sometimes thirst. A reaction now comes on. The patient gradually becomes warmer and warmer—the face changes from pale to red—his cheek is now flushed—his eyes are suffused, and he suffers from headache, more or less agonising. This is the *Hot* stage.

The thirst, whether it existed before or not, is now a most prominent symptom; the appetite is thoroughly lost; the patient having, in most instances, a repugnancy to the very name of food. If you inspect the tongue, you will find it comparatively dry and loaded, and of a brown colour; and though the skin feel to your hand like a burning coal, so to speak, the patient himself may complain of such excessive coldness, as to induce the attendants to cover him with numerous blankets;—more generally, however, he has a sensation of heat equally severe. Every muscle of his body in this stage is more or less painful and enfeebled; though in some instances, he may appear to have a greater command over them than in health; and if delirium supervene, which it may do, his strength will appear almost superhuman. During the excitement of this stage, individuals have been known to become musical, poetical, oratorical, and have exercised other talents which they never were known to manifest in health. The heart now beats violently, and the pulse is full and bounding; the urine, instead of being pale, as in the preceding stage, is scanty and high coloured. The secretions generally are sluggish, and in some instances they are altogether suppressed. A long *sweat* succeeds, during which the greater number of the suppressed secretions gradually reappear. —As with a feeling of languor, lassitude and a disposition to yawn and stretch the various members of the body, the fit is usually preceded; so with the same symptoms does it usually end. Then comes the state of comparative health, which may either again pass into the Fever-fit, or continue for an indefinite period, so as eventually to become Health.

As every individual has, from birth, some part of his body less strongly constructed than the other parts, it would be wonderful indeed, if, during this tempest of body, termed an *Ague*-fit, that weak point were not very often discovered, but discovered more or less, in every instance it usually is. Is the Brain the least strongly constructed point? Then, according to the part of the organ most implicated, and the degree of implication, will you have Epilepsy, Apoplexy, Insanity, Imbecility of Mind, or Palsy, superadded. Is the original weakness of conformation seated in the lungs? Look, then, for spitting of blood, asthma, or consumption.—In the heart? how it palpitates or remits in its beats!—it may even stand still *for ever;* and more than once in my life have I known it to do this during the ague-fit. But the joints may be the weak points of the patient's body?—then, as a matter of course, the joints swell and become more or less hot and painful. And if just at this epoch, some wiseacre of the profession chance to drop in,—with the usual scholastic sagacity, he discovers the disease is not Fever, but *Rheumatism.* The lancet, of course, is immediately bared—the leech and the blister are ordered;—from this moment, the entire treatment is directed, not to the beginning, but to the end—not to the Fever, but to its termination! The state of the joints is the sole subject of thought and action; the Brain—that Pandora's box of the whole—that organ upon which every motion of the body, wrong or right, depends —never once enters into the wonderfully wise man's head;—he never once dreams of influencing this key to all the corporeal actions, in any manner whatever. And what is the result of this treatment? Daily promises, and daily disappointments—hope deferred and the heart made sick—the health, the happiness, and the home of the patient too often made desolate forever.

Thus far, Gentlemen, I have detailed to you the beginning, the progress, and some of the more important terminations of what is usually called a perfect ague-fit. I must now tell you that all agues are not equally perfect; the stages of the fit in particular cases may vary in duration—the bolder features or symptoms be all more or less subdued—the intermission, or immunity from suffering, instead of extending to a day or days, may be only an hour or two in duration. The disease is now no longer Ague; Physicians change its name to *Remittent* Fever. Remittent fever may be either the primary disease, or the Fever may, in the commencement, be a veritable ague,—recurring and re-recurring, in the first instance, at perfectly periodic intervals of a day or more; yet slide by degrees into a fever of the Remittent form. And this Remittent Fever again, whether it be the original or secondary disease, from its periods of access and interval becoming still less obviously marked, may assume the shape and shade of disease incorrectly termed *Continued* Fever; which last, from long duration and other circumstances, may terminate in that most terrible state of mental and corporeal prostration, by the schools denominated *Typhus* Fever,—from a Greek word signifying stupor or unconsciousness, that being one of the most common symptoms.

What, then, are all these Fevers, but varieties or shades of each other? During the course of all or any of these so-called different fevers, every organic affection, every possible local change you can name or imagine, may, with more or less quickness, be developed,—giving occasion, of course, to the attending practitioner to baptise the disease anew; and this he may either do, according to the locality of such organic change, or according to the locality in which the symptoms may induce him to suspect its existence. Should a new doctor chance at this particular time to be asked to see the patient, what a fine opportunity for a very pretty quarrel! And the practitioner who attended from the beginning, though he may have practised the right, shall very likely be dismissed, while the other for advising the wrong may as certainly be retained, and be esteemed, at the same time, as an angel, or an oracle at least. You are doubtless curious to kn owthe *wherefore* of this. But there is nothing so very curious in the matter after all. For if you only reflect how few people in this world can get further than the surface of things,—how few can see beyond present signs and present symptoms, you will not be astonished that the new doctor who shall place his finger on the organ for the time most implicated, and wrongly set that down not as the *end* but as the *beginning*—not as the consequence or effect, but as the origin and cause of the totality of disturbance, will be preferred to him whose experience of the whole case led him rightly to look upon the local disease as the gradual development of repeated febrile attacks. But the new practitioner will seldom be content with merely seizing upon the local termination as the cause or beginning of the mischief, and proceed to treat it accordingly; for he will very often drop a hint, at the same time, that but for neglect of this the case might have ended far more favorably. Suppose, for example, Pulmonary *Consumption* to be the after result of the original fever. "What a pity," the learned man will say, "I was not called in at first, for *then* I should have at once attacked the SEAT of the disease—the chest." *Then*, Gentlemen, when no consumptive symptom existed,—*then*, when the *weak point* of the patient, for all you, I, or any other doctor knew, or could know, might have been the liver, stomach, or any thing else! And by that pretty speech of his, nine times out of ten, such new doctor will succeed in securing the esteem of the persons who employ him. Now this is a hard case for the honest and more able practitioner; but so the world wags!

Until the publication of my Work, the *Fallacy of the Art of Physic as taught in the Schools*, and long after, it was the almost universal belief of medical professors that Ague could only be caused by emanations from the fens; the complaint being very common in fenny countries; and I am not sure that this belief is not even now one of the numerous fallacies still taught in our schools and universities. But, Gentlemen, there is no agent in nature which may not cause ague, from a blow to a passion. Lord Byron's mother, according to Mr. Moore, died of a "fit of ague brought on by rage or vexation, caused by reading her upholsterer's bill." The close analogy subsisting between ague and the passions has not escaped the observation of the poets, Shakspeare, as I shall afterwards show you, often alludes to it; and Coleridge in his usual playful manner, gives us to understand,.

There's no philosopher but sees,
That Rage and Fear are ONE disease,
Though this may *burn* and that may *freeze*,
They're both alike the AGUE.

You see, then, there can be no corporeal agitation, no constitutional revolution, without a change of temperature of some kind.—Butler in his *Hudibras*, tells us,

LOVE's but an ague fit reversed,
The *hot* fit takes the patient first.

Seriously, you will do well to ponder on the relations which the effects of the various passions bear to ague. Throughout them all you may observe the same tremor and thermal changes; and in many cases the disease which they may cause becomes equally periodic and recurrent. A young lady was to have been married on a particular day; but on the very morning of that day the bridegroom was accidentally killed. The grief of the lady ended in insanity. The *fit* in this case, came on every day at the same time; but during the remainder of the twenty-four hours, she had, in scholastic phrase, a "lucid interval." She was then perfectly sane.—Gentlemen, may I ask what are the lucid *intervals* of mania but *intermissions?* Prolong them to an indefinite period and you produce sanity! Prolong the intermission of any disease to an indefinite period, and you have *Health.* Your own common sense will tell you that.

What are the constitutional effects of a fall or a severe blow? Do we not perceive the same tremor in the first instance—the same pallor and loss of strength so remarkable in the cold fit of ague? Have we not the same hot or febrile fit succeeding? "The fevers," says Abernethy, "produced by local disease [local injury,] are the very *identical* fevers which physicians meet with when there is no external injury." How can they be otherwise, since it is only by the matter of the body changing its motive ralations and consequent thermal conditions in an identical manner in both cases, that we obtain the group of symptoms included by physicians under the abstract word "Fever?" The agents which cure fever from a blow, are the same agents which cure fever from a passion, a poison or a viewless and unknown cause. When a man is hot, and his skin dry all over, no matter what the cause be, you may bring his condition to the state of health by throwing cold water over him. You may do the same by an emetic. Oh! an emetic has a wonderful power in the case of fever; and the old physicians treated all fevers in the first instance by emetics.—They did not trouble themselves much about the cause. The *state* of the patient was what they cared most about. When he was cold, they warmed him, sometimes with one thing, sometimes with another. When hot they cooled him—not in the Sangrado fashion of these days, by draining him of his life's blood; but by the employment of an emetic, or by sponging him over with cold water! By bleeding a man in the hot stage of fever, you may cool him certainly; but unless you cool him to death, you cannot thereby keep the fit from returning. When it does return, you may bleed him again, it is true; but how often may you do this safely? So far as my experience of medical matters goes, few people in these times are *permitted* to die of disease. The orthodox fashion is to die of the doctor! Gentlemen, we daily hear of the terms *constant* and *continued* fever, but there never was, nor can there be a fever without a *remission,* without a *period of comparative immunity* from suffering, more or less marked Every writer of name from Cullen downwards admits this, but what does it signify whether they admit it or not? use your own eyes, and you will find it to be the truth. You have only then to prolong that period of immunity to an indefinite time, and you have health. By bark, opium, and the various chrono-thermal medicines, you may in most cases succeed. But instead of trying to prevent recurrence, practitioners now-a-days only temporize during the fit; and this is the most *profitable* practice; for a long sickness makes many fees! The *honest* physician will do his best to keep the fit from returning. Now if blood-letting were certain to do that, how could we possibly hear of people being bled more than once for fever? Do we not hear of repeated application of the lancet, and of the patient dying notwithstanding? When I come to speak of Inflammation, you shall find how little that instrument is to be relied on in fever, or rather you shall find that its employment at all, is one of the greatest and most terribly fatal of medical mistakes! How then is it, that this practice has so long maintained its ground? By the same influence that for thirty centuries determined the Indian widow to perish on the funeral pile of her husband—the influence of authority and custom simply. In physic, gentlemen, as in other things, men are "bred to think as well as speak by rote, they furnish their minds as they furnish their houses, or clothe their bodies, with the fancies of other men, and according to the age and country. They pick up their ideas and notions in common conversations or in their schools. The first are always superficial, and both are commonly *false*"—[Bolingbroke.] The first step that I myself made in rational medicine, was to unlearn all I had been taught; and that at the beginning was difficult. How I ever came to believe one half the rubbish propounded by medical teachers, I cannot now understand; for the whole doctrines of the schools are a tissue of the most glaring and self-evident absurdities At a future period of this course I shall prove my assertion, but before you can detect error, you must first know truth, and this it shall be my endeavor to point out to you. To return then to Fever. From the facts and observations already stated, you at once perceive that during the whole of the paroxysmal stages of an ague the entire economy is more or less altered and revolutionized. It matters very little upon what part of the body the exciting cause or causes of this corporeal disturbance shall first fall—whether directly upon the brain in the shape of a *Passion,* a poison, or a blow on the head—or more remotely, as in the case of a sudden chill, or the mechanical injury of a joint or other external part—to the consequent derangement of the Brain and Nervous System, we still refer the whole paroxmysmal symptoms. Why, after these symptoms have once completely passed away, and the economy has been comparatively restored to its usual healthy motive condition, periodical repetitions of the diseased motions should yet recur, is a thing not more inexplicable than that the various habits of Health should in certain instances with our knowledge, and in certain other instances without it, all have a tendency periodically to repeat themselves: Upon this subject I will touch more at large at an after period of the course. Meantime as the symptoms of an uncomplicated *Ague* fit stand out boldly in relief—and as in every other form of disease, however named or by whatever caused, these symptoms or shades of symptom may readily be traced; you at once see the reason why I have taken Ague as the *type* of the whole. But while with this explanation I assume every disease to be in the first instance an ague—do not suppose for a moment that I employ the term in any confined sense. Call the symptoms ague, fever, or what you please, CONSTITUTIONAL DISTURBANCE is the prelude to every disease—the *precursor* of every kind of local mischief—though in numerous cases if not in all—more especially after *repeated* paroxysmal recurrence, SUPERADDED PHENOMENA appear, and these last may be either FUNCTIONAL or ORGANIC—and in some instances they are of a kind so grave and important, as to throw the constitutional symptoms for a time altogether into shade. Some part of the system, in a word, may be so much more prominently implicated than another, as to become the chief feature of the case—*functionally* if the *motions* be only *atomically* altered—organically, if the part in question be threatened with a change in its structure tending in any way to its destruction or decay. Of the first you have an example in the spasm or palsy of a muscle, or the suspension or too great flow of a secretion. Of the second I can give you no better instances than that disorganizing disease of the knee joint termed "white-swelling," and that too common termination of chest disease in this country—*Phthisis* as it is termed by medical men—*Consumption* or *decline* by the vulgar.

The propriety of adopting any remedial measure has in every case more or less relation to time and temperature. But the beneficial influence of the Peruvian BARK, and its preparation *Quinine*, would appear, more than any other agent, to depend upon the period in which we administer it. The proper period for its exhibition is during the remission. With the exception of opium, it is more strictly a *preventive* than any other known agent. So generally, indeed, has it been found to answer this purpose in the treatment of Ague, that many teachers of medicine have vaunted it as a *Specific* for this distemper; but as we stated to you in our former lecture, there is no such thing as a specific in nature for any disease whatever. Had there been a specific for ague, do you think the court doctors would have permitted Oliver Cromwell to die of it? Whatever be the agency by which this or any other disease has been cured, you shall find in the course of these lectures, ample evidence that its influence relates in every case to change of temperature. Major-General Sir R— A— while serving in Portugal, became the subject of severe ague, which resisted a host of remedies prescribed for him by numerous medical friends—Bark among the number. One day when riding out he was seized with a paroxysm. The inmate of a little shop where he dismounted till the fit should be over, suggested to him to try the barber-surgeon of his neighbourhood. Willing to be cured by any body or by any thing, Sir R. at once agreed. The ambidexter man of medicine came, ordered him a large plaster to his back, and the ague was forthwith cured! Gentlemen, to what, but to the improvement of the *temperature* of the spine must we attribute the success of that plaster? The general good effect of *Quinine* in keeping off the ague-fit, when it proceeds from viewless causes, is sufficiently well known to every member of the profession; but it is not so generally understood that the same agent may be equally serviceable in cases produced by local injury. Of this, however, I will give you a proof. A gentleman shortly after having had a bougie passed, was seized with ague of the most perfect kind; two days after, at the same hour, he had a return, and every alternate day it recurred, till he had experienced about twelve paroxysms; then for the first time he took quinine, and he had no repetition. He never had ague before that occasion, nor ever afterwards, unless when compelled to use the bougie.

I do not know that I could better commence my proof of the intermittent nature of Disease generally, than by entering into a short consideration of what are termed

SPASMODIC COMPLAINTS.

Such complaints being unattended with any structural change, are termed by the profession FUNCTIONAL; a word, as we have seen, expressive of their simplicity. What is the meaning of the term *Spasm?* It means an irregular or unnatural contraction of some muscle of the body, and in the case of the voluntary muscles, you cannot by any effort of the will control or counteract it. By rubbing and *warming* the part, you may sometimes succeed, and there are a great many medicines by which, when taken internally, the same effect may be produced; but what will answer in one case may not answer in another. The disease is sometimes termed *Convulsion*, and *Cramp* also, more especially if the spasm be painful. The difference of locality in which spasm takes place in different persons has afforded professors an excellent opportunity of mystifying the whole subject. When it happens in the membranous lining of the lachrymal duct, you shall see the tears accumulating at the inner angle of the eye, the passage to the nose being closed up by the contracting spasm. This disease is called *Epiphora*, and sometimes, though not quite correctly, *Fistula, Lachrymalis.* *Sneeze, Hiccough*, and *Yawn*, are also effects of spasmodic action. Occurring in the muscular apparatus of the windpipe, or its divisions, spasm is familiar to you all in the word *Asthma;* and it is also termed *Dyspnœa*, from the difficult breathing which it certainly occasions. When this spasmodic action affects the muscles about the jaws and throat, and the patient at the same time has convulsions of the face and limbs, there is usually loss of consciousness, with a sudden loss of power in all his members, which causes him to fall. This is the *Epilepsy* or "falling sickness." The subject of the disease termed *Jaundice*, in ninety-nine cases out of a hundred, owes the yellow colour of his skin to spasm—spasm of the gall-ducts—though any other obstruction of these passages—a gall-stone for example, may give rise to the same effect. Taking place in the illium or small intestine, spasm is termed the *Illiac Passions;* in the colon or great intestine, *Colic;* in the urethra, *Spasmodic Stricture.* The *Lockjaw* affords yet another example of spasm. That all these various diseases are merely effects of the same action in different parts is proved by each and all of them having been known to assume the most perfectly *periodic type* in individual cases, and by all being more or less amenable to the same class of remedies most generally influential in keeping off the ague-fit.

Like every other Force in nature, Remedial Powers act by *attraction* or *repulsion*, and for a reason to be afterwards given, every remedy can act both ways in different individuals. They are all capable of producing inverse motion,—in one case *curing* or alleviating, in another *causing* or aggravating disease. Opium, for example, will set one man to sleep, and keep another wakeful. Arsenic has cured the tremor and heat of ague, and set up both in a previously healthy person. Opium, Bark, Copper have done the same. Moreover, all four have produced diseases with fits and remissions.

A girl took a large dose of arsenic (sixty-four grains) for the purpose of suicide; her design was discovered in sufficient time to prevent her death; but a periodic epilepsy ushered in by chills and heats was the result. A man of the 30th foot, after a course of hard drinking, became epileptic; his disease came on every second day at the same hour. Quinine, silver, and calomel, were tried without success. I then gave him arsenic, after which he never had another fit. In these two cases then, arsenic produced inverse motions, causing epilepsy in the first, and curing it in the second. When I come to treat particularly of the Passions, I shall show you that the same passion which has caused an ague or an epilepsy may cure either. In truth, I scarcely know a disease which the passions *Rage* and *Fear* have not cured and caused, according to their *attractive* or *repulsive* mode of action in particular cases.

I have said that ASTHMA is an intermittent disease. "The fits of convulsive Asthma," according to Darwin, "return at *periods*, and so far resemble the access of an *intermittent fever.*" Had this physician's knowledge of the symptoms of Asthma been sufficiently complete, he would have added that in almost every instance the subject of it shakes or shivers, and in all complains of a chilly feeling followed by heat of skin. Then doubtless he would have found that between ague and asthma there is something more than a resemblance—that Asthma, in fact, is an ague, with the further development of spasm of some of the muscles of the windpipe.—But call the disease what you like, I have generally cured it with one or other of the chrono-thermal remedies; and with two or more in combination I can most truly say I have seldom been compelled to complain of ill-success in its treatment. In one case, however,—that of a gentleman who had the disease every second night,—I had the greatest difficulty in effecting a cure, for it was not till I had nearly exhausted all my best resources that I succeeded to my heart's content by applying a warm plaster all along his spine. Here you again see, in the most direct manner, the advantage of attention to temperature; the spine, in this case, was always chilly, but became warm and comfortable under the use of the plaister. Many medical writers have detected the analogy which subsists betwixt *Spasm* and *Tremor*, without being at all able to explain in what it consists. Analyze tremor, or as it is more commonly called, "shivering" "shaking," or "trembling." and you will find it to be merely a rapid succession of incomplete. spasms. In *St. Vitus' dance*, or as it is sometimes termed, "the leaping AGUE," which is also a periodic disease, you may see every variety of spasmodic and tremulous action a muscle can take. It is a disease which I am very often consulted for in children, and in most cases I speedily succeed with minute doses of one or more of the chrono-thermal remedies; one remedy of course answering better in one case, another in another.

With the same agents, prescribed upon the same principle, I have been equally fortunate in the treatment of Urethral Stricture— a disease for which the bougie, in general practice, is far too indiscriminately employed. You all know the beneficial influence of *warm baths* in this affection, and some of you have heard of the advantages to be obtained from the internal use of *Iron*. But the influence of *Quinine* over stricture is not so generally known. It is unnecessary for me to give any instances of my own in evidence of this, Sir Benjamin Brodie having published at length the case of a gentleman affected with spasmodic stricture of the tertian type—that is to say, which came on every alternate night about the same hour, and which yielded, in his hands, to quinine. The marked *periodicity* of this case doubtless pointed out the proper treatment; but in cases where this is less striking, you have only to ask the patient if there are times when he passes his water better than at others; and if he answers in the affirmative, you may be sure the stricture depends less on a permanent thickening of the mucous membrane of the urethra, than upon a remittent spasmodic action of its muscular apparatus· Such a patient on coming out of a warm room into a *cold* one, will find himself, all in a moment unable to pass a drop of water. See then the effect of *thermal* change—of change of *temperature*—in producing spasm,—and hence too the benefit to be derived from the warm bath in the treatment of spasm generally. In the great majority of stricture-cases, the surgeon may save himself the trouble, and his patient the torture, of passing the bougie at all, by treating the disease chrono-thermally;—that is, if he prefers the interest of the public to his own; but this mode of preventing the return of disease is obviously less lucrative than that which enables him to give a temporary relief at the expense of long attendance.

We now come to that form of disease termed

PALSY OR PARALYSIS.

An affection in which there is a still greater loss of muscular power than in any of those we have hitherto considered. From the suddenness with which the patient is in most instances affected or "struck," this disease is known to every body under the name of "Paralytic Stroke," or more familiarly still, "a Stroke." It consist either in a partial or complete inability to use the affected muscles—for there are degrees of Palsy as of every other disease—inability to control their actions in any manner whatever by the will. Now it is a common error of the schools to teach that such disorder is *always* dependent on some PRESSURE on the Brain or Spine.—But, gentlemen, Paralytic disease has often been produced by a *purge*, and oftener still by *loss* of Blood;* and many weakly persons on suddenly rising from their chair, have all at once lost the use of a leg or arm. Most cases of Paralytic diseases if properly sifted, will be found to be only the *termination* of previous constitutional disturbance; previous threatenings of such loss of power having been more or less frequently felt by the subjects of every case. Moreover, in a number of cases, palsy is an *intermittent* disease throughout its whole course, being preceded by chills and heats, and going off with a return of the *proper* temperature of the body. How can you reconcile the idea of permanent pressure with such phenomena?

I now hold in my hand the *Dublin Journal*, in which I find a case of paralysis of some of the muscles necessary for the proper performance of the functions of speech—*Aphonia*, as it is called by professional men. This case will show you that Palsy, like every other form of disorder, may exhibit the most perfect periodic intermissions. It is taken from a foreign journal. [*Hecker's*] "A peasant girl was attacked in the following manner:—Speechlessness came on every day at four o'clock·, P. M. accompanied by a feeling of weight about the tongue, which remained a quarter of an hour. The patient, while it lasted, could not utter any sound, but occasionally made an indistinct hissing noise.—Consciousness did not seem impaired during the fit. She ascribed her inability to speak to a feeling of weight in the tongue. The paroxysm went off with a large evacuation of watery urine, accompanied with *perspiration* and sleep. Ten such attacks had occurred, when Dr. Richter of Wiesbaden was called to see her; he ordered her considerable doses of sulphate of Quinine with immediate good effect from the first day. The attack returned, but in a mitigated form, and on the second day no trace of it was visible except a certain degree of debility and fatigue felt at the usual hour of its coming on."

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* The recent case of Sir Wm. Geary must be still fresh in every body's mind. That Gentleman met wiih a sudden loss of blood from an accidental wound of the carotid artery. Palsy of the left side ensued.

I am sorry the corporeal temperature is not stated by the reporter of this case, but the periodic manner in which it came on and went off, together with the mode of its cure, sufficiently illustrate its nature. Not long ago, I was consulted in a similar case, which was moreover complicated with palsy of one side. Sarah Warner, aged 25, married, had suffered periodically from loss of speech, and also from an inability to move the leg and arm of one side. Various remedies had been ineffectually prescribed by her medical attendants, who all looked upon her disease as APOPLECTIC—in other words they supposed it to be caused by *pressure* on the Brain. One of them, indeed, proposed to bleed her, but she would not consent. When she applied to me I ordered her a combination of Quinine and Iron, after which, she never had another fit.

I shall now give you the details of a case of palsy which I treated successfully after it had been long considered hopeless:—

Mrs. Sargent, aged 40, a married woman, and the mother of several children, had kept her bed for eight years, on account of paralysis of the lower extremities; during which period she had been under the treatment of eight or nine different physicians and surgeons of the Cheltenham Dispensary, Dr. Cannon and Mr. C. T. Cooke among others. Such at least was the woman's own statement, confirmed to me by many people of respectability, who had visited her from the commencement of her illness. When I first saw her, she could not move either leg; her voice was an almost inaudible whisper; she was liable to frequent retchings and she complained of spasms with much pain of the loins and limbs. Her last dispensary medicine, mercury, which she believed had been given her by mistake, had produced salivation, but with decided aggravation of her symptoms. In this case I prescribed a combination of remedies, the principal of which were hydrocyanic acid and tincture of cantharides. Under this treatment her voice returned in about a week: her recovery from every symptom was complete in six weeks, and she had no return in three years after she was under my care.

Charles Overbury, aged 10, had been in a curious state for some months previous to my first visit. I found him lying upon a couch, every muscle of his face in such complete repose, that his countenance seemed quite idiotic; his arms and legs were perfectly powerless, and if you held him up, his limbs doubled under him like those of a drunken person. Upon which ever side you placed his head, he was unable to remove it to the other. It was with difficulty he swallowed his food, but the heart and respiratory muscles performed their respective offices with tolerable correctness. The patient labored under complete loss of speech the entire night, and nearly the whole day. About the same time daily—noon—he could utter the monosyllables *yes* and *no*, but this power remained with him for half an hour only. The remedies to which I resorted in this case were minute doses of calomel, quinine, and hydrocyanic acid,—all of which improved him, but the last proved the most effectual. In less than three weeks he was running about, well in every respect, and the change in his countenance, from apparent idiocy to intelligence, was as perfect a transformation as it is possible to imagine You marked, I hope, the periodic, though imperfect, remissions which this case exhibited.

The case of the celebrated Madame Malibran may still be fresh in some of your minds. It was completely the converse of this boy's disease, for at particular times every muscle of that actress became stiff and rigid throughout the entire body. When taken together, these cases show the analogy which subsists between paralytic and spasmodic affections; indeed, in many cases, both affections co-exist at the same time in different muscles of the same person,—sometimes they are complicated with imbecility of mind or insanity.

A young girl was lately carried into my room by two of my servants. Her mother brought her to me, at the request of the Rev. Edward Murray, brother of the Bishop of Rochester. Not only had this girl lost the use of one side, but her reason was gone; in fact, her appearance was quite idiotic, and she was utterly helpless in every way. She had, moreover, an *Epileptic fit* every night when she was put to bed. In this case, I prescribed a combination of copper, silver, strychnia, and quinine. What a medley! I hear some of you say; but don't be too quick, for mark the result. About six weeks afterwards, a young person walked into my room with a letter "from the Rev. Edward Murray." It was the same girl, looking quite intelligent, and speaking and walking as well as she had ever done in her life.—Her epileptic fits had become faint, few, and far between, and she was then the monitor of her class! Now this girl, Mr. Murray informed me, had been ill *four* years, and had been dismissed the Middlesex Hospital "incurable."

I was suddenly called to see Mrs. T——— of Clarges-Street, whom I found with complete loss of the use of one side, and partial palsy of the muscles on the same side of the face. She had been nervous and ill for some time, and the night before, she had been suffering from domestic affliction. The next morning, while entering her own door, she fell as if she had been shot. When I saw her, her face was pallid, and her feet were cold. The people about her were urgent that she should be *bled*, but I ordered her warm brandy and water instead. A gentleman who was formerly her medical attendant, was sent for, and agreed with me that she should not be bled. Under the use of quinine and strychnia, continued for about six weeks, with country air, she recovered the use of her side so far as to be able to walk without a stick; the use of her arm has also since returned. Had this lady been bled or leeched, she would now in all probability be in her coffin.

I will now give you a case or two exemplifying the cure of palsy of a single limb.

Case 1.—Mary Boddy, 18 years old, from the age of *eleven*, had weakness of the back and loins, and she gradually lost the use of the right leg. In this state she remained for *three* years; sixteen months of this period she was an in-patient of the Gloucester Infirmary, in which establishment her mother held the situation of nurse. But cupping, bleeding, leeching, blistering, were all ineffectual. The patient complained of having suffered from shivering fits, followed by heats, and sometimes perspirations. The same mode of treatment as in Mrs. Sargent's case, with the addition of a galbanum plaster to the loins in which she complained of coldness, was adopted, and followed with like success. She had scarcely been a fortnight under my care, before she completely recovered the use of her paralytic limb, and she has had no relapse during the last four or five years.

Case 2.—Esther Turner, aged 30, when in the service of Mr. Ward, the master of a respectable Boarding School, at Painswick, fell down stairs, and from that moment, lost the use of her left leg. After a period of *eleven* years, during which she had been ineffectually under treatment in various hospitals and infirmaries, she came on crutches to my house. She explained that she was subject to severe shivering, with occasional convulsions. Her leg, she said, had more feeling on certain days than others. After trying her for some time with a combination of hydrocyanic acid and tincture of cantharides, without any improvement, I prescribed a pill, containing a combination of quinine, silver, and colchicum, night and morning. She progressed from that day; and in about six weeks I had the satisfaction to see her in possession of the complete use of her limb; nay, she returned to her service at Mr. Ward's, which she only left to get married.

Case 3.—Miss M——, aged 25, had lost the use of both limbs for *seven* years; all that time she had been confined to her bed, and though she had the advice and attendance of the late Sir Charles Bell, who was a friend of her family, she never once could stand up during the whole of that period. She was brought up to town from Yorkshire, a distance of 260 miles, on a sofa-bed, to be placed under my care. I immediately put her on a course of chrono-thermal treatment, and we had not long to wait for improvement, for in five days this young lady could walk round the table with the partial support of her hands. At the end of two months, without any assistance whatever, without even the support of the bannisters, she could run up and down stairs nearly as well as myself.

Should this case be considered to require better confirmation than my word, I am permitted *privately* to give Miss M——'s name and address to any party who may take an interest in the case, the particulars of which she will readily communicate. Miss M—— is the daughter of an accomplished English clergyman, and is niece of one of the judges of the supreme court of Scotland, who being in town all the time she was under my care, saw her the day after she arrived, and had the satisfaction to witness the whole progress of her cure.

If a knowledge of anatomy could confer a knowledge of Physic, why did Sir C. Bell fail in this case? No man knew anatomy better; few knew the *nervous system* so well. But to know the anatomy of the *dead* is one thing, and to know how to influence the motions of the *living* is another. Sir C. Bell was a profound anatomist, and an admirable operative Surgeon; he excelled in Mechanics, but not in Medicine.

I could here give you numerous other cases, all more or less explanatory of the manner in which palsy of almost every muscle of the body may be developed and cured. For the present, I shall content myself with recording my experience of a disease, which until I explained its nature in 1836, was never supposed to depend on Palsy, namely the *Curved* or *Coooked Spine.** By most authors, this disorder had been supposed to be under all circumstances, an affection of the bones. Some vaguely referred it to be peculiarity of nervous action; while others hy-

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When I first published my views of the nature of Curved Spine, their correctness was called in question. When Stromeyer and others, without noticing my labours, *afterwards* adopted them as their own, they were admitted by the whole profession to be true.—What a reward to the real cultivators of science,—first to have their discoveries denied, then pilfered! The reader will find as he proceeds that this is not the only instance of plagiarism I have to complain of.

pothetically traced it to looseness of the ligaments. When the late Mr. Abernethy said it was owing to a "*rancour* in the muscles," he only used an unmeaning phrase to conceal his ignorance of the entire matter; for what meaning can there in reality be in the word "rancour," when applied to a subject like this? *Rancour* is an old English word for malignity or ill temper; but how can that apply to a state of muscular *repose*,—to a palsy! Nevertheless, to Mr. Abernethy's surgical care, almost every case of spinal curvature, among the higher ranks, was at one time entrusted. What the disease really is, I shall now proceed to demonstrate.

The mast of a ship is kept erect by the *stays* and *shrouds*—if you divide or loosen these on one side, the mast falls more or less in an opposite direction. The human spine is kept upright by a similar apparatus—the *muscles.* If any of these muscles from bad health become weakened or paralyzed on any side, the spine, from the want of its usual supporting power, must necessarily, at that particular place, drop to the other side. But being composed of many small jointed bones, —the *vertebræ*—the Spinal column cannot, like the mast, preserve its upright form, but when unsupported, must double more or less down in the shape of a curve or obtuse angle; and the degree and situation of this curvature will depend upon the number and particular locality of the muscles so weakened or paralyzed. This disease or "deformity," (for Mr. Abernethy would not allow it to be anything else,) under all its uncomplicated variations of external and lateral curvature, is the result of muscular weakness or palsy; which palsy, for the most part, is a feature or termination of long remittent febrile disorder: It is often a more or less rapid development of the usual diseases of children,—Scarlet fever, Chicken-pox, Measles, and so forth; all of which, as I shall afterwards show you, are purely remittent fevers; but whether complicated with vertebral disease or not, curved spine is no more to be influenced by issues, setons, moxas, &c, except in so far as these horrible measures almost invariably confirm it by further deteriorating the general health of the patient.

In the commencement of most cases of this kind, the patient is taller one day than another,—a proof that it depends upon the state of health of the hour; and never do I remember to have had such a patient who did not confess to chills and heats or *vice versa.* I will give you two cases in which these phenomena were observed.

Case 1.—A young lady, aged 16 had a *lateral* curvature of the vertebræ of the upper part of the back, (that is a curvature to one *side*) causing the inferior angle of the shoulder blade to protrude. I prescribed calomel and quinine, in small doses, and directed her to have her spine rubbed night and morning with soap liniment. In less than a month the patient had gained three inches in height, and in two months more, she was erect.

Case 2.—A lady, 45 years of age, the mother of children, had her spine so much curved at the lower part of the loins, that, to use the phrase, her "hip grew out." This case came on suddenly. I ordered a warm plaster to be applied to the spine, and prescribed hydrocyanic acid and quinine. In three weeks she stood upright. Four years afterwards she had a return, when the same means were again successfully put in practice. These two cases, gentlemen, were cases of simple, uncomplicated palsy of the muscles of the back. There are yet other ways in which curved spine may take place, though these still depend on a *loss of Health* of the general system. The mere weight of the body will in some cases produce *waste*, or, professionally to speak, interstitial *absorption* of particular *vertebræ*, or of their parts. A curve of course must follow; but curvature of the spine is not unfrequently the effect of a *consumptive* disease of the substance of the vertebræ—a process by which one or more of these small bones fall into a state of ulcerative decay. Still, even in these cases there is at the same time a greater or less loss of power in particular muscles—for the same general bad health that weakens the bones must weaken them also.

I will give you two cases illustrative of this last complication.

Case 1.—Mrs Craddock, aged 25, had, for upwards of eighteen months, great weakness in the upper third of the back, where a swelling made its appearance, gradually increasing in size. According to the statement of this woman, she had been an in-patient of the Gloucester Infirmary for seven months; during which time she had been treated by issues and other local measures, but with no good effect. When I first saw her, she could not walk without assistance. Upon examination, I found a considerable *ex*curvature, involving the third, fourth, and fifth vertebræ of the back,—which vertebræ were also painful and enlarged, and the skin which covered them was red and shining. The patient was extremely dispirited, shed tears upon the most trifling occasion, and was subject to *tremblings* and spasms. She was generally chilly, and suffered much from coldness of feet. She also complained of *flushes.* Some days she thought the "swelling" in her back was not so great as upon others; and upon these particular days, she also remarked her spirits were not so low. I directed the issues to be discontinued, and ordered a combination of hydrocyanic acid and tincture of cantharides, to be taken three times a-day. These medicines she had scarcely continued a fortnight, when the improvement in her general appearance was most decided; the protuberant part of her spine had in that period considerably diminished—her health daily became better, and, in less than a month, her cure was accomplished. A permanent curve, slight when compared with her former state, still remains.

Case 2. A young gentleman, 9 years of age, had external curvature of the upper vertebræ of the back; one or more of which were in a diseased and even ulcerated state, as was obvious, from the discharge which proceeded from an opening connected with the spine. His mother observed that he stood more erect some days than others. When I was first consulted, he had an issue on each side of the spine; but these, as in the former case, having been productive of no good, I ordered to be discontinued. Keeping in view the remittent and constitutional nature of the disease, I prescribed small doses of calomel and quinine. The very next day the discharge was much diminished and a cure was obtained in about six weeks. The ulcer in that time completely healed up, but a permanent *angular* curve of course, remained—trifling, however, when compared with the state in which I first found him. I might give you many other such cases, but my object is to illustrate a principle, not to confuse you with too much detail. These two cases, gentlemen, are sufficient to show you the nature and best mode of treating, what you may call, if you please, *Vertebral Consumption*;—though I am not so sure the schools will agree with you in the designation. The one case was in its incipient state, the other fully developed.

It occasionally happens that the matter proceeding from a diseased *vertebræ*, instead of making its way out by the back, proceeds down the loins *internally*, till it reaches the groin, where it forms a tumour; this tumour is called by the profession *lumbar*, or psoas abscess. With the exception of opening the tumour to allow the collection of purulent or other matter to escape, this disease, like the cases just detailed, should be treated almost entirely *by constitutional* measures—by such measures as tend to the improvement of the health generally. It has been for some time the fashion to confine all patients with spinal disease to a horizontal posture; and a rich harvest makers of all kinds of beds and machines have derived from the practice. In the greater number of cases this treatment is erroneous from beginning to end. Constant confinement to one posture is sufficient of itself to keep the patient nervous and ill; while his own feelings and wishes are, for the most part, the best guide as to whether he should rise, walk, sit, or lie down. In this *he* has no theory—the doctor too often has nothing else.*

Equally effectual have I found the chrono-thermal principle of treatment in that particular palsy of one or more muscles of the eyeball, which gives rise to *Squint*, or *Strabismus*, as the Faculty phrase it. Parents who have children thus affected will tell you that the little patient some days scarcely squint at all. You see then that this affection, at the commencement at least, is in most instances an *intermittent* disease. Can the intermission here, like that of the ague, be prolonged to an indefinite period by bark, opium, &c.? Oh, I could give you half-a-hundred instances where I have prolonged it to a cure by these remedies. In a case lately under my care, the squint came on regularly every alternate day at the same hour, and lasted an hour. The subject of it, a boy of eleven, after taking a few minute doses of quinine, never squinted more. In another case, as nearly as possible the same, I ran through almost all the chrono-thermal medicines ineffectually; but succeeded at last with musk. I was lately consulted in the case of a young gentleman affected with squint, who had also a tendency to curved spine. A few doses of calomel and quinine cured him of both. The subject of all these cases had corporeal chills and heats,—showing clearly that the local affections were merely developments of remittent fever. Were medical men only to attend a little more to constitutional signs, they would not, I am sure, leech, blister, and cup away at localities, as they are in general too fond of doing. If properly treated at the commencment, squint is very generally curable by internal remedies; but when, from long neglect or ill-treatment, it has become permanent, the position and appearance of the eye may be made all but natural by a surgical division of the opposite muscle. If the squint be *partial* only, a surgical operation will make the patient squint worse than ever—and even in the case of complete squint, should the paralytic muscle upon which it depends recover its power after the operation, a new squint would follow of course.

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* Among the numerous causes of spinal disease named in books, much stress is laid on the improper use of *Stays*, and other articles of female dress—but what in Heaven's name is the use of reasoning with the English people on such a subject—a people who imitate every body, fear every body, and in all things attempt to rival every body—not so much as regards truth and excellence, but as regards the stark, staring abandonment of both! The doctors at least have reason to thank them. We laugh at the Chinese for diminishing the size of the female *foot*, which is not a vital part. The chest *is*, if you take its contents into account: but see how we diminish it by stays! &c.

There is yet another paralytic affection of the eye which I must explain to you. I allude to what is called *Amaurosis* or Nervous Blindness. In this case, a non-medical person could not tell the patient was blind at all, the eye being to all appearance as perfect as the healthy organ. Now, this affection, in the beginning, unless when caused by a sudden blow or shock, is almost always a remittent disease. Some patients are blind all day, and others all night only. Such cases, by the profession, are termed *hemeralopia* and *nyctalopia*, or day and night blindness. These, then are examples of intermittent amaurosis; and they have been cured and caused, like the ague, by almost every thing you can name. You will find them frequent in long voyages,—not produced in that case by exhalations from the fens or marshes, as many of the profession still believe all intermittent diseases to be,—but by depraved and defective food, with exposure to wet, cold, and hard work, perhaps, besides. In the *Lancet*, [8th Dec. 1827,] you will find the case of a girl, twelve years of age who had *intermittent* blindness of both eyes, palsy of the limbs, phrenzy, and epilepsy, from all of which she recovered under the use of ammoniated *Copper*— a chrono-thermal remedy.—This case fully establishes the relations which these various symptoms all maintain to each other; and their remittent character, together with the mode of cure, explains the still greater affinity they bear to ague.

The remedies which I have found most efficient in *permanent* nervous blindness have been the chrono-thermal, or ague medicines, occasionally combined with mercury, or creosote. I will give you a case which I treated successfully by an internal remedy.—Charles Emms, aged 25, stated to me that he had been completely blind of both eyes for upwards of *nine* years, four of which he passed in the Bristol Asylum, where, after having been under the care of the medical officer of that establishment, he was taught basket making, as the only means of earning his subsistence. He had been previously an in-patient in the Worcester Infirmary, under Mr. Pierrepoint, but left it without any benefit. Some days he perceived flashes of light, but could not even then discern the shape or shade of external objects. Before he became completely blind, he saw better and worse upon particular days. When he first consulted me, his general appearance was very unhealthy, his face pale and emaciated, his tongue clouded, appetite defective and capricious, and he described himself as being very nervous, subject to heats and chills, palpitations and tremblings; his spirits were depressed. My first prescription, quinine, disagreed; my second, silver, was equally unsuccessful; with my third, *hydrocyanic acid*, he gradually regained his vision—being, after an attendance of four months, sufficiently restored to be able to read large print with facility. Such has been his state for upwards of two years. I need not say his general health has materially improved—his appetite, according to him, having become too good for his circumstances. In confirmation of the value of hydrocyanic acid in *nervous* blindness, I may mention that many years after I first published this case, Dr. Turnbull detailed as a great *discovery* some cures which he made in similar cases by applying the vapour of this acid to the Eye.

If patients who are subject to Deafness, be asked whether they hear better upon some days than others, the great majority will reply in the affirmative;—so that deafness is also for the most part a remittent disease.—That it is a feature or development of general constitutional disorder is equally certain, from the chills and heats to which the great body of patients affected with it, acknowledge they are subject. Deafness from organic change of the ear is infinitely less frequent than that which arises from nervous or functional disorder. Hence the improvement to be obtained in the great majority of diseases of this organ, by simply attending to the patient's general health. By keeping in view the chrono-thermal principle, I have been enabled to improve the hearing in hundreds of cases. One old gentleman, upwards of 70 years of age, after having been all but quite deaf for years, lately consulted me for his case; he recovered completely by a short course of hydrocyanic acid. The like good effects may also be obtained by chrono-thermal treatment in ringing of the ears, &c. Indeed, very few people get much out of health without suffering more or less from noise in the ears; sometimes so great as to cause partial deafness.

Cases of loss of the sense of Touch, and also those of partial or general numbness, will, in the greater number of instances, be found to exhibit remissions in their course.—So also will almost every instance of that exalted degree of sensibility known by the various names of *Tic douloureux*, *Sciatica*, &c., according to the locality of the various nerves supposed to be its seat. Look at the history of these diseases. What have your surgical tricks done for their relief,—your moxas, your blisters, your division of nerves! The only measures to which these diseases have yielded, have been the chrono-thermal remedies, bark, arsenic, iron, prussic acid &c., the remedies, in a word, of acknowledged efficacy in ague. I shall here present you with a case from the *London Medical and Surgical Journal*, illustrative of the nature of *Tic* when involving the nerves of the face. The pain first supervened after a fright; it returned every day at two o'colck, commencing at the origin of the suborbital nerve, extending along its course, and lasted from half an hour to an hour. Two grains of sulphate of quinine given every two hours for three days produced in so short a period a complete cure. The same prompt and favourable effects were observed in another case of frontal tic that appeared without any known cause.—Now this *frontal tic* is commonly known by the name of brow-*ague*. Why then mystify us with *neuropathy*, *neuralgia*, and a host of other jaw-breaking terms, that, so far from enlightening the student upon the subject of medicine, do nothing but lead him into darkness and confusion. All these are mere varietes of Ague; the place of pain making the only difference.

Loss of the sense of TASTE is an occasional effect of constitutional disturbance, and so is Depraved Appetite. An example of what is called *Bulimia* or *excessive* appetite, occurs in the lectures of Mr. Abernethy: "There was a woman in this hospital, who was eternally eating; they gave her food enough, you would have thought, to have disgusted anybody, but she crammed it all down; she never ceased but when her jaws were fatigued.—She found out that when she put her feet into *cold water*, she ceased to be hungry." What could be this woman's inducement to put her feet in cold water, in the first instance? What but their high temperature—the Fever under which she labored? A gentleman, who was fond of play, told me, that when he lost much money he was always sure to become *ravenously hungry;* but that when he won, this did not happen. The temperature of his body, as well as the condition of his brain, must have been different at these different times.

To the state of corporeal temperature, we must also refer the various degrees of THIRST, from which so many invalids suffer. This like HUNGER, when extreme, is a depraved sensation. If we have intermittent fever, so also must we have intermittent hunger and thirst among the number of morbid phenomena. Colonel Shaw, in his *personal memoirs* and *correspondence* has this remark; "I had learned, from my walking experience, that to *thirsty* men, drinking water only gives a momentary relief; but if the *legs* be wetted, the relief, though not at first apparent, positively destroys the pain of thirst."

We have, hitherto Gentlemen, confined ourselves, as much as possible, to simple or "functional" diseases,—those forms of disorder in which there does not appear any tendency to local disorganization or decay. In our next Lecture, we shall enter into a consideration of those disorders which manifest more or less *change of structure* in their course. Such diseases are termed "organic," by medical writers, and to a certain extent they are more complicated than those we have just left. To a certain extent, too, they admit modification of treatment. In most cases of this kind, though not in all, it is my custom to prescribe one or more powers, having a general chrono-thermal influence, with one or more having a special local bearing.—I have necessarily, on occasion, combined remedies which may partially decompose each other. In continuing still to do so I am justified by *successful results*, the only test of medical truth—the ultimate end and aim of all medical treatment. A charge of unchemical knowledge has been occasionally urged against me for this, by chemists and drug compounders. But what says Mr. Locke?—"Were it my business to understand physic, would not the surer way be to consult nature itself in the history of diseases and their cures, than to espouse the principles of the dogmatists, methodists, or *chemists?*" This charge, then, I am willing to share, with numerous medical men, whom the world has already recognised as eminent in their art. By such, the answer has been often given, that the human stomach is not a chemist's alembic, but a living organ, capable of modifying the action of every substance submitted to it. And here I may mention, that the late Sir Astley Cooper, when I sent him my work, entitled "The Unity of Disease," with that candour and gentleman-like feeling by which he was not less distinguished, than by his high eminence as a surgeon, wrote to me as follows:

"Dear Sir, I thank you most sincerely for your valuable work. I have not the least objection to being *unchemical*, if I can be *useful;* and I agree with you, that the living stomach is not a Wedgewood mortar.

Yours truly,
ASTLEY COOPER."

"DR. DICKSON, Clarges-street, Piccadilly."

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Intermittent Fever, following local injury, cured by Quinine.—Mr. Stafford narrates the case of a gentleman, who dislocated the tarsal bones. Reduction was effected, but the injury was followed by excessive pain, which after a time, became intermittent, coming on every evening about eight, lasting five or six hours, and then gradually abating. It was cured by quinine.—*London Lancet.*

A LECTURE

On the Magnetism of the Human Body.

(Continued from page 67.)

It was attempted to be shown by Matteucci, that the nerves were electric, but no effect on the galvanometer has been detected, even when the current of a galvanic battery is passed through them—hence, even if there were electric currents in the nerves, they would not be detected by the galvanometre, unless the direct influence of the denuded nerves could be experienced. I do not think this has been attempted, and I propose, when at leisure, to examine into it. Within a few days, I have received in the London Lancet, the notice of a report by M. Shuster, to the French Academy of Sciences, to prove that electricity is not serviceable in medicine, unless it be applied through acupuncture needles. Administered in this way, he asserts it may be employed with success in many diseases, chronic rheumatism, paralysis, amaurosis, &c. He says it acts by directly stimulating the sensibility, contractility and absorbent function.

It is a well known fact also, that needles used in acupuncture, become magnetic—this aids his idea, of forming a direct communication with the nerves.

In cases of serous effusions, the eminent Le Roy D'Etiolles has also been successful with the above mode of application.

My experiments showing magnetic influence on the needle only during motion of the muscles, derive additional support from the fact of their being no action developed by electric currents passed through the nerves when quiescent, and the latter experiment renders it probable that human electricity is modified by vital power, or perhaps the influence of the mind, until muscular action, under the control of the latter, is commenced.

It would occupy too much time to quote the multitude of curious experiments which go to show a similarity in effects of the nervous power with electricity, galvanism and magnetism. I would not, in the present state of our knowledge, give a fixed opinion as to their identity—effects attributable to all these fluids, supposing them distinct, and all possessed by the body, have been exhibited. Farther experience may show us that whether one fluid in different states, or several, some vital principle or mind, modifies their action in the body. We know that our motive power is under the control of our *will*, and that sensation involves consciousness, and without consciousness, there is no *will*. If the nervous power is weak, the will can only make it act feebly, and without a strong will, great effects of nervous power are not shown. The will controls the nervous system of animal life, while it does not influence that of organic life. This is worth noticing in relation to mesmeric or magnetic influence, where the operator controls the will of the subject, and what his will controls, but does not affect the organic functions. Insanity or mental disorder deprives us of the power of will, and thus of the control of animal life, but organic actions are not necessarily impeded. When the mind is sane, muscular motion is mostly under the control of will, if the organs are sound. Bichat has clearly shown a difference between *the nervous* system of animal life which ministers to the mind, and is under the *will*, and carries on the functions indispensable to the continuance of life, and the nervous system of organic life which is not subservient to the will, and does not transmit sensations, except when the sensibility of a part is highly exalted by irritation, and then we perceive its action. The natural stimulous of these separate nerves is in like manner developed. That we derive sensation and perception from the external world, through nervous communication, no one doubts, because if you divide or compress the nerve, the sensations are not communicated to the brain—an influence developed on the nerves and communicated to the brain, give us perception. If the power of sensation was in the nerves (which are only vehicles of it) the brain would not be of so much importance—it has no sensibility when irritated—the nerves receive impressions and then convey them to the brain, the organ of *mind*, which power notices and appreciates them.

Experiments to indicate that the motive and sensorial power of the body is galvanic or electro-magnetic, are very numerous. Among the most singular are those of Weinhold, related in the Journal des Progres, vol. x, 1828.

"He beheaded a cat, and after pulsation and muscular action had completely ceased, he removed the spinal marrow, and filled the vertebral canal with an amalgam of mercury, zinc and silver. Immediately the throbbing of the arteries re-commenced, and the muscular actions were renewed, which it was impossible to distinguish from those which are produced by the influence of the spinal marrow; the animal made many leaps. When the irritability appeared exhausted, Weinhold, by means of a metallic arc, placed the heart and voluntary muscles gradually in contact with the artificial medullary substance, and he revived again general but feeble contractions."

"He filled with the same amalgam, the

cranial and vertebral canal of another cat which did not give any sign of life; the animal became, during about twenty minutes, in such a state of vital tension, that it raised its head, opened its eyes, looked steadily, attempted to walk, and endeavored to rise after falling down frequently. During all this time the circulation and pulsation were very active, and continued for a quarter of an hour after the chest and abdomen were opened. The secretion of gastric juice was evidently more abundant than ordinary, and the animal heat was perfectly re-established."

"He filled also the cranium only of a dog with the same amalgam, he examined then the principal functions of the senses, and observed that the pupil still contracted, that the animal manifested still a desire to avoid the light when a lighted candle was placed near it, and that it listened when a person struck with a key on the table."

In support of this very singular experiment, we have a paragraph from Muller's late work.

"In the eye, a feeble galvanic current excites the special sensation of the optic nerve, namely, the sensation of light. In the auditory nerves, electricity produces the sensation of sound."

Volta states that when the poles of a battery of forty pairs of plates were applied to his ears, he felt a shock in his head, and a few moments afterwards, perceived a hissing and pulsatory sound like that of a viscid substance boiling, which continued as long as the circle was closed,"

It is a generally received opinion, that *nervous power* produces sensation and motion—what this is, we have not settled. Sir Charles Bell has demonstrated, however, that the posterior roots of the spinal nerves, are the origin of nerves of sensation, while the anterior roots are for those of motion.—Majendie has shown that "the spinal marrow is composed of two distinct cords in juxta position, the one endowed with exquisite *sensibility*, whilst the other almost completely unconnected with this property, seems to be reserved for *motion*." Upon this, a theory has been based, that an ascending current of electricity by one cord causes *sensation*, and a descending current by the other causes *motion*—or perhaps there is a negative and positive portion of the cord, the one constituting the agent of sensation, and the other that of motion.

The experiments of Muller have proved that "the application of galvanism to the anterior roots of the spinal nerves, after their connection with the cord is divided, excites violent muscular twitchings; the same stimulous applied to the posterior roots is attended with no such effects." These galvanic experiments support the facts determined by C. Bell.

The late discoveries of electro-magnetism strongly incline to the opinion that motion and sensation are produced in the body by it.

The convulsive and violent muscular action produced on the bodies of criminals immediately after death by galvanic action, clearly makes it appear that it can cause motion in animal bodies, and acts on nerves and thus through the organs of motion. Liebig says, "By means of *nerves*, all parts of the body, all the limbs, receive the moving force which is indispensable to their functions—to the production of mechanical effects.—Where nerves are not found motion does not occur. The will certainly has an influence over motive power, while the organ to be moved has its nerves sound—*how* it acts we know not. The will directed to our vocal apparatus causes any sound which we can utter to be given forth—*how* it is effected, and why the sound is acute or grave, we can only explain as the result of will.

If Electricity, Galvanism and Magnetism be separate powers, their peculiar combination or supply in different proportions by the pile or chemical action which produces them, may account for varied susceptibility, and idiosyncracy, according to the predominance of one or other.

There are objections to their identity which I have not time to enumerate; the permanence of the needle pointing in the same direction, unless mechanically obstructed; magnetism is not impeded by glass, and electricity is—you can insulate the latter and not the former—touching with the hand removes nothing from the magnet, and deprives an electrified body of its electricity instantly, &c. With 200 feet of copper wire, and 200 feet more interposed in the turns of the spiral, and 120 pairs of plates 4 inches square, the current made *magnetized* needles, but did not affect the galvanometer. Faraday.

That magnetism produces motion in inanimate matter, is shown by the polarity of the needle, which if placed E. and W., and left to itself, turns to the N. and S. Call this attraction or what you will, oscillation and motion result. The magnet will hold up by its inherent power a weight heavier than itself. Connect with it a galvanic armature and it will lift forty times its own weight. The human strength is capable of raising four or five times the weight of the body. I know an individual weighing less than 300 lbs. who has lifted from the ground 1300 lbs.

The following case illustrative of electro-magnetic action on the human system, is reported in the London Lancet.

At the Middlesex Hospital a man was admitted about six hours after having taken an ounce of laudanum. At this time he was apparently lifeless, the surface of the body was cold, countenance pale and livid, lips purple, pupils contracted to a mere point, respiration was scarcely perceptible, pulse hardly to be felt. The laudanum was removed by the stomach pump, but in spite of every exertion the pulse became more unfrequent, and was at times imperceptible; when recourse was had to electro-magnetism, which was applied by means of a small battery with coil and contact breaker. One wire was applied to the neck, and the other to the region of the heart, or epigastrium, and by these a succession of very powerful shocks was given. The good effects were very apparent. The muscles of respiration were set in motion, and the diaphragm contracted powerfully; the chest was more fully expanded, respiration was more powerfully carried on, and a corresponding improvement was observed in the countenance. The pulse improved and became more powerful, becoming steady when the current was interrupted for a few minutes. The application was continued for several hours, and was finally successful and the patient restored.

In the last (April) number of the American Medical Journal, is a similar case reported with the same results. It occurred in March, 1842, at Valparaiso. A gentleman was poisoned by a powder which was given to him at Cubebs; after the most violent symptoms, and continued unavailing efforts to relieve him, " he now appeared to be sinking. The surface was cold and covered with a clammy sweat. The face was palid, with a purplish tinge, the jaw and eyelids were fallen. The pulse was hardly perceptible at the wrist, if at times it was at all to be felt. Stimulants were continued. There were no signs of reaction, and the features wore the aspect of death. Worn out with fruitless efforts, the medical attendants desisted from further exertion. Dr. Page thought of the electro-magnetic battery, and proposed its application, as they felt justified by the desponding circumstances to make the experiment." He says,

" It was immediately tried, and with the happiest results. With an assistant rapidly rotating the wheel, I applied the balls at first to each side of the neck, and ran them down behind the clavicles. The arms and body now moved convulsively, but the patient lay as unconscious as before. I now passed one ball over the region of the heart, and the other to a corresponding point on the right side. In an instant his eyes opened widely, and with a ghastly expression of countenance, his head and body were thrown convulsively toward me, and he groaned. He now sank back in his reclining posture and was again asleep. The balls were reapplied in the same situation, with similar results, a third and fourth time, and he cried, ' no more.' Reaction was now positively established. The heart had received a strong impulse. The pulse was becoming rapidly developed, and the whole surface warm."—Reaction continued satisfactorily, and there was no farther occasion for the battery.

" When he recovered his consciousness, he says all had been blank, until he felt as if a gun had been fired off within him, which thrilled through and shook him to the very extremities." This was the application and effects of the electro-magnetic battery.

This case is reported by Dr. T. S. Page, and was witnessed by Dr. Houston, of the Royal Navy, and Dr. Barrabino, of the United States Navy, attached to the schooner Shark. A few weeks previously, a French gentleman, who took the same medicine from the same shop, lost his life. Upon an analysis of an equal quantity of the powder, 30 per cent. of opium, (75 grains) were found in it, which accounts for its melancholy effects.

The results of the experiments in these two two cases, fully warrant us in the belief that *post hoc propter hoc* may fairly be presumed here, and that electro-magnetic action supplied the place of nervous power in the human body. In vol. 4, p. 482, of Sturgeon's Annals of Electricity, are some interesting experiments with galvanism on dogs. Three puppies were drowned, and left in cold water fifteen minutes. All vitality had apparently ceased—no motion being perceptible. They were taken out? one was submitted to successive shocks from a voltaic battery, and *restored to life*—the other two were left as they were—they remained so. Three others were drowned in warm water, and left immersed forty minutes—two of them were restored in the same manner. In the " Discourse on the Study of Natural Philosophy," the philosophical Herschel says:

" The principle once established, that there exists in the animal economy a power of determining the development of the electrical excitement, (speaking of the torpedo,) capable of being transmitted along the nerves, and it being ascertained, by numerous and decisive experiments, that the transmission of voltaic electricity along the nerves of even a dead animal, is sufficient to produce the most violent muscular action, it becomes an easy step to refer the origin of muscular motion in the living frame to a similar cause; and to look to the brain, a wonderfully constituted organ, for which no mode of action possessing the least plausibility had ever been devised, as the source of the required electrical power. If the brain be an electric pile constantly in action, it may be conceived to discharge itself at regular intervals, when the tension of the electricity developed reaches a certain point, along the nerves which communicate with the heart, and thus to excite the pulsations of that organ. This idea is forcibly suggested by a view of that elegant apparatus, the dry pile of Deluc, in which the successive accumulations of electricity are carried off by a suspended ball, which is kept by the discharges in a state of regular pulsation for any length of time." This same idea of the cause of the pulsation of the heart appears to have occurred to Dr. Arnott. The stronger pulsations of the brain during high excitement, favour this hypothesis.

Many more experiments might be offered in support of the identity of the nervous power with electric, galvanic and magnetic influence, both as to the production of motion and sensation.

I have not noticed the evolution of *light* during decomposition or chemical change, of which some curious cases are recorded, arising in the human body.

"Sir Henry Marsh observed in a patient, dying of consumption, about ten days before her death, a very extraordinary light which seemed darting about the face and illuminating all around her head, flashing very much like an Aurora Borealis. She had been that day seized with suffocation, and was extremely nervous. At night this luminous appearance suddenly commenced. The maid said she had seen it before, and it had dazzled her eyes, but that she was afraid to speak of it, as she would be called superstitious. It continued for an hour and disappeared. Three nights after he saw it again. The evening before she died, he saw it again, but fainter, and it lasted about twenty minutes. The state of the body was that of extreme exhaustion. Her breath had a peculiar smell, which led him to suppose some decomposition was going on. Sir H. Marsh has collected, in all, four cases similar to the above. He considers it as resulting from decomposition, as seen in dissecting rooms—from chemical action, in peculiar conditions, evolving light through electrical phenomena." We know the decomposition of animal matter, especially fish, produces phosphorescence, or electric light.

The influence of light on animal development is strikingly pointed out by the experiments of Dr. M. Edwards. He has shown that if tadpoles be nourished with proper food, and are restored to the constantly renewed contact of water, (so that their branchial respiration be maintained,) but are entirely deprived of light, their growth continues, but their metamorphosis into breathing animals is arrested, and they remain in the form of large tadpoles!

Here is a fact which we are forced to believe, which we cannot explain.

When the queen bee in a hive dies, or is removed, do we understand how the bees have the power of converting into queens the neuter eggs? and yet do we not believe this? Do we not see a different animal in the general form of the body, the proportionate length of the wings, the shape of the tongue, jaw and sting, and in many other respects, than would otherwise have been produced—yet can we explain how this is effected?

I might relate cases of spontaneous combustion, under circumstances strongly inducing a belief in the agency of electricity in its production.

The direct influence of the magnet on the human body, has been a subject of frequent experience among medical men. I have, myself, witnessed cases where positive effects were felt. A lady of cultivated intellect and much intelligence had neuralgia of the arm for several months, with intense sufferings—the N. pole of a magnet applied to it, relieved her pain temporarily, while the south pole increased it violently. This same effect I have seen in cases of rheumatic joints.—These influences are not perceived by all, but only by those of highly sensitive nervous systems. All who are susceptible of mesmeric induction, feel the effects of the magnet when applied to the head; in some it produces giddiness, headache, and even convulsions.

The editor of "The Magnet" mentions that he held a magnetized steel ring over the head of one of his subjects, while awake; "in a few minutes she drooped into a state resembling sleep." On removing the ring, he found it impossible to wake her up, or to control her at all. "The entire system seemed to be paralyzed, the breathing was much increased, and difficult, and she continued in spasms about twenty minutes, when she was relieved, and came out "in a shudder," like the lad described in the article below.

The following letter "from an intelligent minister of the gospel, well and extensively known," published in "The Magnet," presents singular facts.

"Rev. and Dear Sir:—Agreeably to your

request, I herewith transmit the facts respecting the influence of the *magnet*, in producing the magnetic sleep in the case of my little son. I first magnetized him about the 20th of February, 1842. His age is 15. For some days he was put to sleep each day, for about half or three-quarters of an hour. After that, each alternate day, for about three or four weeks.

"About ten days since, he was playing with a small horse-shoe magnet, capable of sustaining about 12 or 14 ounces. In a short time, I perceived that he was asleep, and exhibited the usual symptoms of the magnetic state. I attempted to arouse him, and he immediately opened his eyes, but said "I am in the magnetic state, I can see every thing just as when I am magnetized." I attempted by the usual passes to remove it, but found I could not. He said, "it is the magnet that has produced this state, and you cannot take it off." I then took the magnet in my hand, and tried the effect of making the several passes with that; but it only increased the difficulty. I then proposed to send the magnet away to a distant place, but he objected with great earnestness, and even with tears. I then persuaded him to go with me into another room, 20 or 30 feet distant from the magnet; and after staying there a short time, he consented to have the magnet removed.

"I again tried, by the usual passes, to remove the influence from him, but could not. He remarked that nothing I could do would remove it, but that it would pass off, of itself, in about an hour, and that he should "*come out of it with a shudder.*" During all this time *his eyes were open.* He could hear and converse with me and with persons *who were very near him*, after they had been near him for a few minutes, but with no others.

"He was playful, and apparently happy. In about an hour, he started suddenly, and with a violent spasmodic shudder, and appeared to be restored to his natural state. Of nothing that had passed, had he any recollection, and the only difference that I could discover between this and the state in which he had usually been when magnetized, was that in *this, his eyes* were open; he had none of the usual attachment for me, all seemed transferred to the magnet, and I had no power to remove it. The magnet had been removed to a distant chamber. But he expressed a strong desire to go to it. I then took the magnet away, *unknown to him*, and passing out of doors, carried *by a circuitous route*, and placed it in a pile of lumber, distant about 70 or 80 feet. It was past 9 o'clock at night, and very dark, and he had no means of knowing, by the ordinary senses, that it had been removed. He said, however, that it had been removed, and went on to tell me which way he would take to find it, and said he would not go directly to it, but would find it by a circuitous route—that he would go out round the house, in about the same course that I had taken in conveying the magnet there! But he said the magnet was wrapped up in a paper, and put in a pile of lumber, which was the fact.

"I then went and removed it to a still greater distance, where I left it till the next morning. He said he had *a strong impression on his mind*, that it had been removed to a more distant place, as I have described it, and that from that time he lost all interest in it. This was more than an hour from the time that he came out of the magnetic state with a shudder, as above described. Since then, he has manifested no desire for the magnet, but when it was afterwards brought near him, even within several feet, he said, after a few minutes, that he felt the same influence coming over him, and immediately caused it to be removed.

"I might add, that the application of living magnetism in his case, was in a course of medical treatment for a spinal disease, and was generally applied under the direction of experienced physicians, and apparently with very happy results.

Respectfully yours,

Philadelphia, April 17, 1842.

When Casper Hauser, who had been isolated from the ordinary influences of the external world for eighteen years, had the N. pole of a small magnet held towards him, he described a *drawing* sensation produced outwards from the epigastrium, and *as if a current of air went from him.* The S. pole affected him less, and he said *it blew upon him.*[*]

Professors Daumer and Herman made several experiments of the kind, and calculated to deceive him, and even though the magnet was held at a considerable distance from him, his feelings always told him very correctly. These experiments always occasioned perspiration, and a feeling of indisposition. He could detect metals placed under oil cloths, paper, &c., by the sensations they occasioned. He described these as a drawing, accompanied with a chill, which ascended according to the metal, more or less, up the arm—the veins of the hand exposed being visibly swollen.

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[*] Millengen.

The influences felt by him from the magnet are precisely such as it produces in the cases of my experiments—and the paralysis of the arm of a susceptible individual, by making him grasp a rod of soft iron or copper, is effected with the same feelings on the arm, described by Hauser from his touching a metal.

The sensitiveness of this boy to the impression of metals is well explained, when we reflect that the eye, when kept from light, increases in its susceptibility to its influence; and its sudden application to this organ, will destroy its vision, while slowly accustomed to its influence it is its essential stimulus.

A gentleman of high respectability informed me lately, that he knew from personal experience, that the body is magnetic. He was a surveyor, and had observed frequently, that in dry weather, at midday, his needle would vary whenever he approached it.*

The conducting power of the body varies with different individuals, some shewing electrical influences, and others none—Now in terrestrial magnetism, Mrs. Somerville says, "The effects of induction depend upon the facility with which the equilibrium of the neutral state of the body can be overcome; a facility which is proportioned to the conducting power of the body; consequently, the attractive power exerted by an electrified substance upon another substance previously neutral, will be much more energetic, if the latter be a conductor, than if it be a non-conductor."

This may also be applied to organized bodies, as well as inorganic.

Dry animal matter, as bone, or horn, or leather, are non-conductors of electricity—moistened, they become conductors. It is not improbable, that at a future time we may refer the phenomena of *fever* to the free electricity of the body accumulated on the surface, when the perspiratory function is impeded—carried off as it usually is, by the restoration of the latter. The calorification of the body is still unsettled, and is open for examination.

The sources of magnetism would give us an interesting subject for investigation, for we know that the sun's rays are magnetic. Milton beautifully describes the constellations, as governed by the magnetism of the sun.

————————"as they move
Their starry dance, in numbers that compute
Days, months and years, towards his all-cheering lamp
Turn swift their various motions, or are turn'd
By his magnetic beam that gently warms
The universe, and to each inward part
With gentle penetration, though unseen,
Shoots invisible virtue ev'n to the deep."

Liebig attributes to "the unequal degree of conducting power in the nerves, those conditions which are termed paralysis, syncope and spasm." This eminent chemist also says, "As an immediate effect of the manifestation of mechanical force, we see that a part of the muscular substance loses its vital powers, its characters of life; that this portion separates from the living part, and loses its capacity of growth and its power of resistance. We find that this change of properties is accompanied by the entrance of a foreign body (oxygen) into the composition of the muscular fibre, (just as the acid loses its chemical characters by combining with zinc,) and all experience proves that this conversion of living muscular fibre into compounds, destitute of vitality, is accelerated or retarded according to the amount of force employed to produce motion. This is corroborative of the identity of nervous power with electro-magnetic influence." He goes on to say, "the moving force certainly proceeds from living parts." "It is obvious that the ultimate cause, the vital force, &c., has served for the production of mechanical force; that it has been expended in the shape of motion."

That the nervous power is derived from a source within the body is certain, as it varies with its healthful or disordered action—it becomes exhausted by muscular action, and excited by stimulants, which act on our material structure; it is lost by continued wakefulness—and intense pain debilitates it excessively. Steady application of the mind also fatigues the brain and weakens nervous power, and rest alone restores it. While the brain and nerves are sound, our nervous power of motion, (and to some extent that of sensation) is under the control of the will, the existence of which involves consciousness in our ordinary state. In *somnambulism*, in which consciousness is absent, some modification of reason, allied to what we call instinct, seems to control them. This is for the inquiries of the metaphysician as well as the physiologist, and deserves our study.—It is well known that in *somnambulism*, the intellectual functions are not only active, but frequently more developed than when the individuals are awake, and in their actions and locomotion they are more cautious.

Whether the nervous power extends without our bodies, and how far, we are yet to learn. The phenomena of Mesmerism would seem to indicate that it does, and produces effects on other living organization. Dr. Holland observes:

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* Since this lecture was written, I have succeeded in magnetizing needles, by the same effort of the arm and hand over them. The fact of rendering needles magnetic by the *passes* continued for a long time over them, is mentioned in the "Magnet." I succeeded in a short time by my process—which I have repeated five times successfully. Whether this can be effected only in certain electrical conditions of the body, is to be learned.

"We cannot assert this to be impossible; and one or two high authorities have affirmed its probability."

The emanations from animal bodies, by which dogs scent them in the chase, and which the Hindoos, living on vegetables, perceive in Europeans, feeding on animal substances, show perceptible influences extending around us.

The curious phenomena of what is called *sympathy*, are physical results yet to be explained. We know that mind acts upon matter, but the *quo modo* is as yet inexplicable to us. Can we explain that mysterious influence by which a nervous disease affects the minds, and finds its way to a diseased structure, as an electric shock is communicated from body to body by contact? Can we explain how, when this occurs, a loss of will is the result, similar to the fascination of a serpent over its prey? Yet, do we deny the well authenticated facts, relating to the convulsionaires of France—the *jerks* of our own country, and the 4000 cases of St. Vitus's dance in England?

Can these be the results of imagination alone? Is the imitation of the wise and good, prompting us to simulate and rival them merely, "such stuff as dreams are made of?"

If nervous power originated from mental action, it would be less variable—but we see the mind as strong and active when the body is weak—and the strength of the latter depends on nervous power. Coleridge, who thought as much as most men, says, "illness never in the smallest degree affects my intellectual powers I can *think* with all my ordinary vigor in the midst of pain; but I am beset with the most wretched and unmanning reluctance and shrinking from *action*. I could not, upon such occasions, take the pen in hand to write down my thoughts for all the wide world." It is not mind, for we conceive that to be indestructible, eternal, therefore, not liable to disease and decay; the bodily organs through which it developes its influence on matter, may be disordered and communicate its powers imperfectly, hence we become familiar with what is called *mental* disease, which is strictly paradoxical. A man drinks liquor, his brain becomes oppressed with blood—as this increases mental confusion comes on, and then a loss of mind takes place—if the blood be thrown out and apoplexy result, it is permanently gone. Intense mental action produces fulness in the vessels of the brain, which frequently is followed by similar effects. The melancholy example of this lately exhibited in the condition of the poet Southey, will readily present itself to the mind.

If the electricity of the body varies, (which experiments prove,) this will enable us to understand how sensitive nervous persons experience so readily atmospheric changes, electric influences. In the animal economy, solids are constantly passing to fluids, and fluids into solids and gases, and changes into electrical conditions, and as to temperature, are always going on. When the bodily health varies, and the nutritive function is impeded, as well as other vital actions, we must expect this to be the case.

Pfaf and Ahrens have shown, that in health the electricity of the body is positive, yet sometimes it is negative, and much oftener so with women. In the 5th volume of Tilloch's Magazine, there is an article on animal electricity, with original experiments, by a Mr. Hemmer, of the Electoral Academy at Manheim. From 2,422 experiments, he came to the following conclusion:—That electricity is common to all men; that it is sometimes negative, oftener positive, and sometimes wanting; that it is produced without friction with the clothes, and is evolved from the naked body; that its quality is altered by certain circumstances, and changed from the one to the other kind by sudden violent motion—from positive to negative by cold, or lessened in amount by it; that continued mental exertion increased the positive electricity, &c. This latter fact is very important, if verified. When Casper Hauser held a cat by the tail, he was seized by a shivering as if he held a metal, and felt as if he had received a blow. If mesmerism depends upon magnetism or electricity, the power of the magnetizer may be derived from his capacity to communicate his nervous power of motion and sensation to his subject—if so, he should control both his motions and sensations; *this he does*, while his influence over him lasts.

Sensative persons are most easily affected by mesmeric induction—weak and sensative persons experience electrical and atmospheric changes more readily—they also part with nervous power more quickly than strong and healthy persons. The touch of metals produces painful sensations in some persons, and paralyses the muscles of others.

The variation of the electrical state of the bodily organs, may enable us to appreciate varied susceptibility to disease in different persons—and may also account for susceptibility, as to magnetic induction. The predominance or deficiency of the magnetic or electric conditions, may, perhaps, assist us, with more advanced knowledge, in investigating temperaments, sympathy, special fancies and antipathies.

Dr. Elliotson, of the Royal Medical Society of London, says, "I am not aware that one *temperament* is more susceptible of *mesmeric* influence than another. The same person may be susceptible at one time, and not at another. I have had a patient insusceptible for four weeks, and then become highly susceptible."

I have, myself, had a case of an intelligent lady, in delicate health, whom I tried seven different times without effect, for an hour at each sitting—on the eighth, she was fully influenced in fifteen minutes, and continued in the magnetic state until I waked her.

I cannot here avoid a quotation from an eminent author, Dr. Holland, who says of the *origin* of nervous power, "Physiological science, on the matter in question, seems at this moment to be on the verge of some great discovery; resembling in this respect, the actual state of other physical sciences—those of light, heat, electricity, chemical forces, and perchance of gravitation—which the course of modern inquiry is ever tending to reduce to certain common laws. It is a question of deep interest already referred to, whether the relation here, is not closer than that of mere analogy; and whether future research may not associate some of the functions of the nervous system, with the more general elements of force and action in the physical world. Vital laws, and what we term physical laws, stand precisely in the same relation to our knowledge. They are continually approximating as this knowledge advances; and may not impossibly in the end be submitted, even in human comprehension, to some common principle embracing the whole series of phenomena, however remote and dissimilar they now appear All science tends to prove the unity of creation, through the evidence it affords of mutual and universal relation of parts."

Dr. Carpenter expresses a similar idea.

"That the rapid progress of generalization in physical sciences renders it probable that ere long, a similar formula shall comprehend all the phenomena of the inorganic world; and it is not, perhaps, too much to hope for a corresponding simplification in the laws of the organized creation."

Did time allow me to consider sympathy, cases might be presented to you, as interesting and extraordinary as the apparent miracles of *animal* magnetism.

Having trespassed long on your attention, I will hasten to a few deductions from the experiments on the needle which I have mentioned; while I add that the "FACTS OF NATURE, NOT THE THEORIES OF MAN, ARE THE ONLY INFALLIBLE TESTS OF THE VERITY OF ALLEGED DISCOVERIES."

1. The human body is magnetic, and possesses polarity. May I be allowed here to allude to the beautiful analogy, which the innate principle of our being, pointing to the Great First Cause, has to the mysterious tendency of the needle to the pole? Our benevolent and wise Creator may have intended the same power, with which he regulates the terrestrial movements of our planet, to be the instrument of communication between matter and mind, and mind and his Divine influence.

When we see an influence imparted by one man's mind to that of another, communicating thought and impulse, is it mere imagination to suppose that this view may be consistent with the mechanism of our moral government? Can we not better appreciate the Divine influence over our own minds, when we have personal experience of the influence of our own finite power over that of others? Surely we can.

"Man, the servant and interpreter of nature, understands, and reduces to practice, just so much as he has actually experienced of nature's laws; more he can neither know nor achieve."

2. Individuals of stronger magnetic power, can charge weaker with their magnetism, which gives them a control over the will and actions of the latter, while the charge or communication lasts. Persons of equal magnetic power, do not produce any perceptible influence on each other.

Perhaps future experiments may indicate that the polarity of individuals varies, and susceptibility to induction may depend on one reversing the polarity of another.

3. The *will* controls and puts in motion the magnetic force, perhaps analogously to the supposed influence of the sun giving motion to vibrations producing light.

4. As iron is charged, and parts with its magnetism if the inducing power is removed, so human bodies become more so by the influence of others, and lose the additional force when the cause is removed. This accords with experience.

5. As magnets once charged, when they lose their magnetism, are more easily charged again; so the susceptibility to induction increases with individuals.* Once affected they become more easily influenced at each subsequent experiment.

6. As the capacity of iron or steel for magnetism varies, when soft or hardened, so

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*This fact in relation to magnets is stated by many, but is not settled.

does peculiarity of temperament, constitution and circumstances, modify the influences of human magnetism.

The laws of human magnetism are yet to be learned, but we are now fairly started in their investigation.

In the 19th century, it is remarkable that man's pride should exceed his ignorance, and that the study of natural causes of physical phenomena, reported by credible winesses, should be deemed beneath the notice of scientific men. Or, as Sir William Temple remarks:

"When man has looked about him as far as he can, he concludes there is no more to be seen; when he is at the end of his line, he thinks he is at the bottom of the ocean; when he has shot his best, he is sure none ever did or ever can shoot better or beyond it;—his own reason he holds to be the measure of truth, and his own knowledge, of what is possible in nature."

In this age of philosophy, the discoveries of science are daily becoming productive of facts, which ought to humble the pride of arrogant man, and teach him with how much more reverence he should

"Look through nature up to nature's God."

May I be allowed to hope that the time will arrive, when——

"A decent respect for the opinions of mankind" will protect students of science from the discouraging and illiberal course pursued towards them, by those whose position in in communities, gives them the opportunity of a ridicule, which too often destroys their ability to add to the common stock of human knowledge.

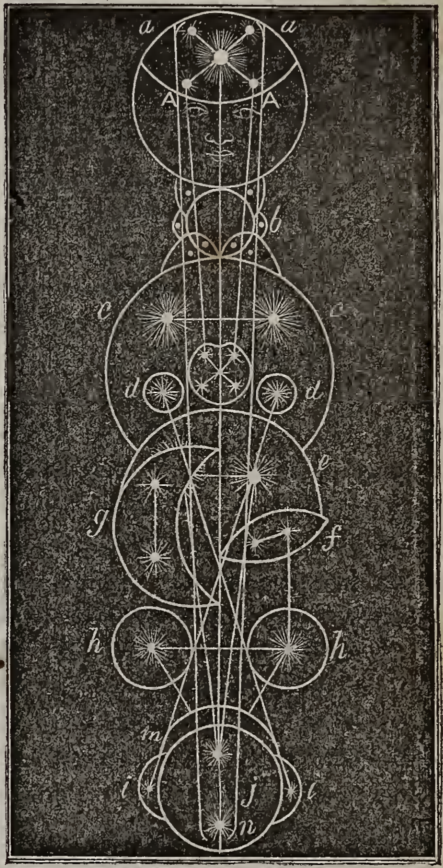
It is ungenerous, it is unjust, it is unwise, to heap unmerited censure and charges of insanity, or collusion with imposture, upon those, whose interest is in the common advancement of science, and whose enthusiasm is necessary in the mechanism of scientific enquiry, to supply the place of self interest, which is the great impelling power in the ordinary pursuits of life.

To such as are engaged in the study of truth, I would say, in conclusion, in the language of one whose intellect has had a powerful influence on the world,

" Crafty men contemn studies, simple men admire, and wise men use them"—and to those who oppose them, " read not to contradict and confute, nor to believe and take for granted, but to weigh and consider."

Magnetic Organization of the Organs of the Human Body, as traced by the Rotary Magnetic Machine.

Continued from our last Number.



A.A.—Poles in the organs of causality. *a.a.*—Poles in the organs of amativeness.—Arbor vitæ. *b*—Cervical glands. *c.c.*—Lungs. *d.d.*—Mammæ or breasts, and heart. *e*—Stomach. *f*—Spleen. g—Liver. *h.h.*—Kidneys. *i.i.*—Ovaria. *j*—Uterus. *m*—Cystis. *n*—Arbor vitæ. *a.n*—Axis between these poles.

The importance of a knowledge of the magnetic organization of the human system, is greatly increased by the introduction of the Rotary Magnetic Machine into practice, as it is on that organization which the instrument acts. In magnetising the organs, it is necessary, in most cases, to place one of the buttons on the posterior spinal nerves connected with them, while the other is moved over the organs. In some cases, however, one button should be placed directly over one pole of an organ, while the other is over the spinal nerve connected with it. There are other cases, in which one button should be placed over the pole of one organ, and the other over the pole of another organ; and again, there are cases in which one button should be placed over one pole, of one organ, and the other over an organ of the brain. There are also many cases, in which the buttons must be placed over different phrenological organs, and hence the necessity of a knowledge of their relative situations. The engraving in the first number of this journal, page 49, giving a view of these organs, and the preceding diagram, intended to give the outlines of the magnetic organization of the principal organs of the body, will be of great service to magnetisers, who have little or no knowledge on these subjects.

We have traced these poles through the spinal nerves, under a very moderate power of the instrument, and also direct magnetic axes, between poles of the same, and of different and distant organs, as seen in the above figure, which accounts for the direct sympathies that are known to exist between distant organs, in the most satisfactory manner. The direct magnetic connection between the stomach and spleen, and the spleen and left kidney, accounts also, in the most satisfactory manner, for the introduction of some fluid into the kidneys, through a medium, other than that of the general circulation.

There are other large poles in the abdomen, besides those represented in the above figure—there are two in the solar plexuses, and two in the mesentary surrounded with satellites. There are also two poles in each joint, including those of the spinal column, with axes connecting *antagonist* muscles, a knowledge of which, and of these muscles, is indispensable to a scientific and successful application of the buttons, in magnetising for lateral, anterior, and posterior, curvatures of the spine, acute and chronic rheumatism, paralysis, &c.

Motions of the Magnetic Forces, and of the Earth and Planets.

To men of that cast of mind which impels them to search out truths for themselves, and can practice the patience necessary in working out demonstrations, Sir Isaac Newton's theory of gravitation has ever been far from satisfactory. At the same time, to endeavour to controvert a theory, which has been received as settled, by all, or nearly all, the devotees to science for a century and a half, is a labor sufficient to deter the boldest. To raise a question as to the truth of what men have, from their youth upwards, been accustomed to believe, strikes the world as something that even the charitable pronounce preposterous, and others will regard as rank heresy. The innovator may reason, though never so logically, yet if he succeeds in exciting wonder only, he may esteem himself happy—nay, if he do not call down the spirit of persecution he may regard himself fortunate. Human nature is so constituted —self-love is so pervading—that men do not like to be found in error. Envy makes the individual, who happens to have struck on the right path in advance of his fellows, her favorite mark. In short, although we admit that the age in which we live is more liberal than any that has preceded it, since the christian era, we must also acknowledge, and every day's experience strengthens the testimony on which the conviction is founded, that truth is the most unwelcome visitor that can knock for admittance at the doors of the hearts of men. Furthermore, it is much less laborious to adopt a venerable, and venerated error, than to make those toilsome researches which are necessary to establish a new truth. The very labor of thinking is itself painful, so much so, in fact, that very few men take the trouble to think *ab initio* for themselves. There is something so very respectable in the cloak of error, that no matter how threadbare it may have become, it is most frequently adopted as the most fashionable garb, and worn with a kind of triumphant, *petit maitre*, jauntiness. To its assumers it never seems ungraceful, and it is but seldom that the popular voice pronounces it out of character.

Notwithstanding, however, that we, of all men, need be most deeply impressed with the correctness of all this—it is the result of some forty year's experience—we lay before our readers the following dialogue. We adopt this style of composition from believing that it is most simple, and least capable of being misunderstood; it also, in our view, admits of greater certainty of expression, an object which it is desirous to gain, inasmuch as we would avoid ambiguity.

A. Do you know that motion is produced by the action of two forces, one of which repels and expands, and the other attracts and contracts?

B. No, I don't know any such thing.

A. You don't, therefore, teach any such thing in your college?

B. No, indeed! There is only one force that produces motion; namely, that of gravity or attraction.

A. How were the earth and planets first placed at certain distances from the sun, and how are they maintained at those distances without a repulsive force?

B. When God made the earth and planets, he gave each of them an impulsion in a right line, in which they would have always moved, but for the force of gravity in the sun, which constantly draws, or attracts them out of that line into curved lines or orbits.

A. Each of these bodies had then a repulsive force to start with, by the aid of a miracle in each case, and, as the attractive force from the sun has been in action an immense period of time, these impulsions must have been tremendous, or those bodies would have long since gone into the sun, and the author of this theory has established his claims to provident discretion in imputing these impulsions to an all-powerful source.

B. The theory to which you allude supposes a primitive projectile force in a right line, and the force of attraction, and that from a combination of these forces, results the curvilineal motion of the planetary bodies. It is true, these bodies would have long since fallen into the sun, if the projectile force were not increased by the increase of the force of attraction, in certain portions of their orbits.

A. So the force of attraction is so accommodating as to manufacture a projectile or repulsive force, whenever and wherever it may be necessary to suit the theory, and prevent these bodies from falling into the sun. According to the theory, therefore, they were first put in motion by a succession of miracles, and are still prevented from falling into the sun by a perpetuation of those miracles.

B. The projectile force, according to the theory, is increased in the falling of a body through half of the radius of a circle, to an amount which would be equal to what it would have acquired by gravity alone; and in this way overcome the force of attraction, and thus prevent the plannets falling into the sun, "while in the other part of the orbit the solar attraction is *exercised in an opposite direction.*"

A. I know that such is the theory, but it is remarkable, that since it tells about the planets acquiring projectile force in *falling* in one part of the orbit, it says nothing about its losing projectile force in *rising* in the other. But here it seems the solar *attraction* is exercised in an *opposite* direction. And such are the absurdities, and resources of this miraculous theory, so characteristic of the age in which it was formed, and so congenial to a mind redolent of superstition and witchcraft.

B. I know that men of science have never been satisfied with Newton's Theory, but they agree in the necessity of teaching it, notwithstanding its complexity, in the absence of any other that is not subject to the same objection; for we can determine the place of a planet at any time, and account for the variations in the motions of the planets, however minute, with the most perfect exactness.

A. I know that such are the pretensions of the advocates of this theory, and that these pretensions increase *pari passu* with their absurdity. There is, however, an exception, in a distinguished mathematician, who acknowledges that "the planet is not in the place represented by the figures, but then it is not far from it.*" That is, not more than 10, 20, 30 or 40 thousand miles from it, (and we know that it is frequently at these distances,) and this is an example of their perfect exactness.

You call the precession of the equinoxes, or retrograde motion of the earth in its orbit, "the effect of the solar attraction, that acts with more intensity upon the increased quantity of matter at the equator, which it tends to draw into the plane of the ecliptic, but which maintains its inclination by the effects of its motion of rotation;" or, in other words, the earth staggers back from this cause, and barely maintains its inclination by the momentum of its motion of rotation; and this is a fair sample of the manner in which you account for the variations in the motions of the earth and planets. Now, the intensity of the attractive force from the sun, instead of being so very great at the equator, as is here assumed, is 66 1-2 times greater at the *poles* than it is at the *equator*, and this difference is increasing, and will go on increasing, until it amounts to 90; for the intensity of the action of the forces of the sun upon those of the earth, is in direct proportion to the intensity of the forces of the earth, and this intensity is minimum at the equator, and increases inversely as the squares of the distances to the magnetic poles in the arctic and antarctic circles, where it is maximum, as is shown by magnetic observations on the earth, and as is demonstrated by the magnetized ring. Besides the heat upon the earth, which lessens the force of attraction, is maximum at the equator, and minimum at the poles, and yet you talk of the greater intensity of the solar attraction on the equator, in the presence of facts which are fatal to such an assumption.

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* See Ena. Metropolitana.

B. I am aware that the facts are as you state them—that the planets are not perhaps, *exactly* in the places represented by the figures; and the manner of accounting for the precession of the equinoxes may be erroneous. But you do not, I hope, seriously intend to deny the truth of the theory of *universal* gravitation, or attraction.

A. Yes, I do; for a theory of *universal* repulsion would be just as true as that of *universal* attraction. The absurdities involved in each, it could be easily shown, would be exactly equal.

B. Well, I am astonished!

A. So am I, that any man of common sense, should have ever believed so absurd a theory.

B. Newton's theory of universal gravitation was opposed more than thirty years, by men of the best talents in Europe, and the opposition was at last given up, and the theory acknowledged to be true; and do you, at this late period, believe you can show it to be a false theory? Does not the apple as well as other bodies, fall to the earth by the influence of the force of gravity alone?

A. I do, and can, not only show the theory to be false, but also, that that *apple*, as well as other bodies, have a repulsive force constantly acting upon them, from the atmosphere alone, of 15 pounds to the square inch, which is abundantly sufficient to make them fall with great velocity, without the aid of the attractive force.

B. But these bodies *fall* in a vacuum.

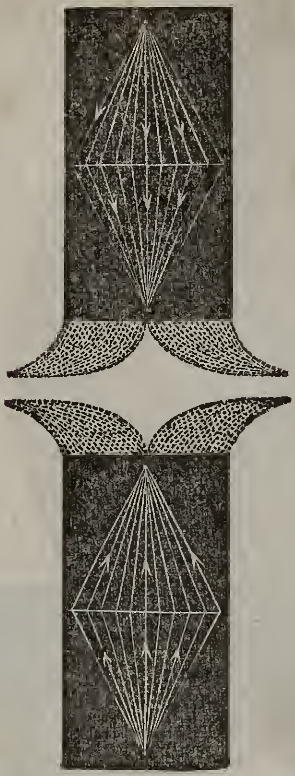
A. Yes, and so does that *feather* as fast, and mark the difference in time.

B. Well, we will see if you can show the theory to be false; and now, to prevent any misunderstanding in regard to it, I will state the theory as it is, viz. "That all particles of matter mutually attract each other, in the direct ratio of their masses, and reciprocally, as the squares of their distances."

A. That I acknowledge is the assumption on which the theory is founded, and you I presume will acknowledge, that the forces which produce motion in the particles of matter are magnetic?

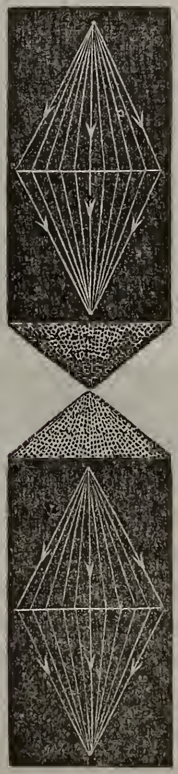
B. Yes, I acknowledge the attractive force is magnetic, and if there is any other force in the particles of matter, I suppose it must be magnetic also, but I dont want to hear anything about motion being produced by heat and cold—about the expansive force of heat and the contractive force of cold—we understand all about that. There have been a great many theories introduced by visionary men, but they have all been found untenable when compared with the theory of unaversal gravitation. You must show that the assumption on which the theory is founded, as you please to call it, is false, before you can disturb the theory.

A. Very well, there can now be no mistake in regard to your position or mine; and now here are some square magnets, and I will dip the positive end of each into iron filings, and you will now see that on placing these ends near to each other, the forces in these ends of the magnets repel and expand.



B. Well, that is a fact, there is an impulsion, or projectile force which expands.

A. I will now dip the opposite, or negative end of one of these magnets in iron filings, and place it near the positive end of the other.



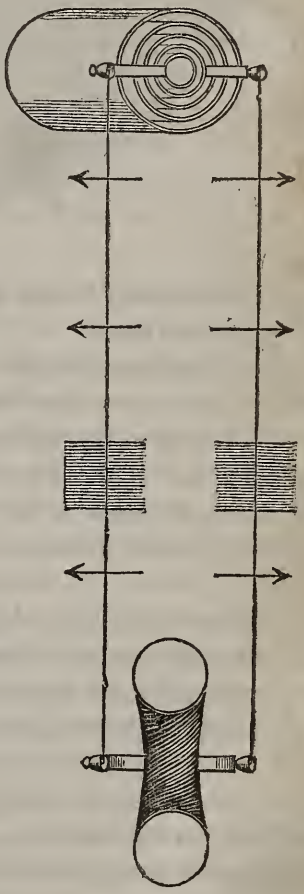
And here, you now see the forces attract and contract.

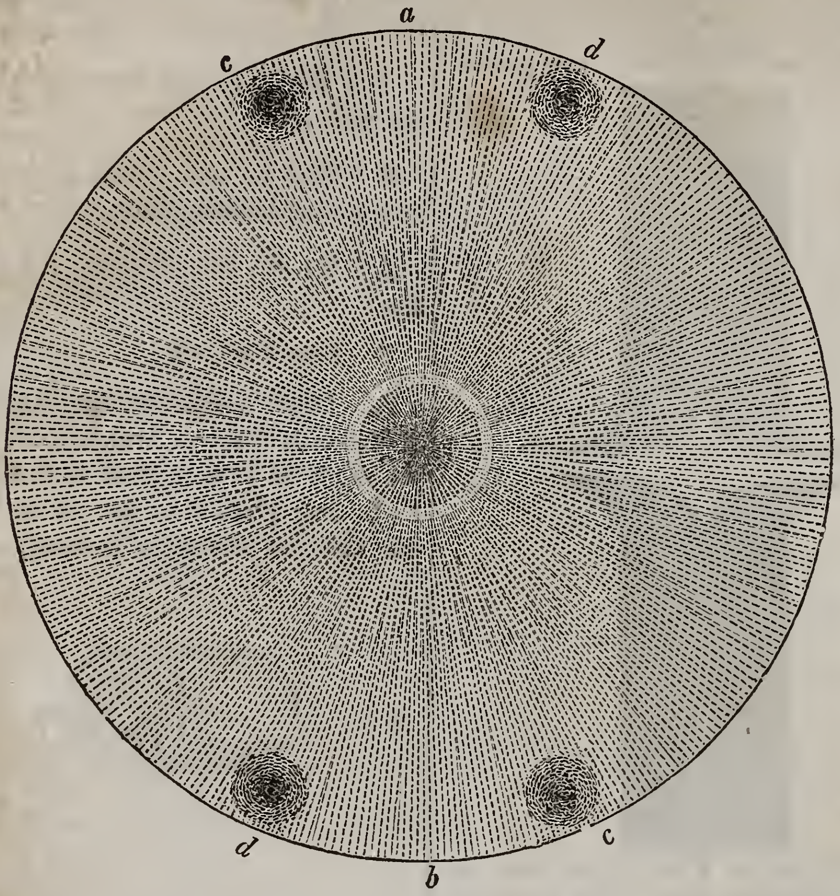
B. That is true. How beautiful and how perfect the illustration!

A. Sir, did you ever see a magnetized disc?

B. Pray what is it?

A. I have here a steel disc of saw plate, 15 inches in diameter, with a round hole in the middle of it, of an inch in diameter, and I will now place it on one of the poles of this Galvanic Battery a moment, and then first adjust and then remove the connecting copper wires, and raise it from the pole. I will now lay it on the table—place a sheet of white paper over it, and strew the paper with iron filings, as you see.





B. That is astonishing! what makes the iron filings work into lines?

A. They are magnetized by the disc with two poles, and the forces form the pole in the space in the centre of it; repel one end of each iron filing and attract the other, and consequently compel them to lie in a line with the forces which radiate from the centre.

B. What makes that halo, or light circle, around the pole in the centre of the disc?

A. It is produced by the violent action of the forces upon the matter which surrounds it.

B. Is not that possibly the way in which the sun lights up its atmosphere.

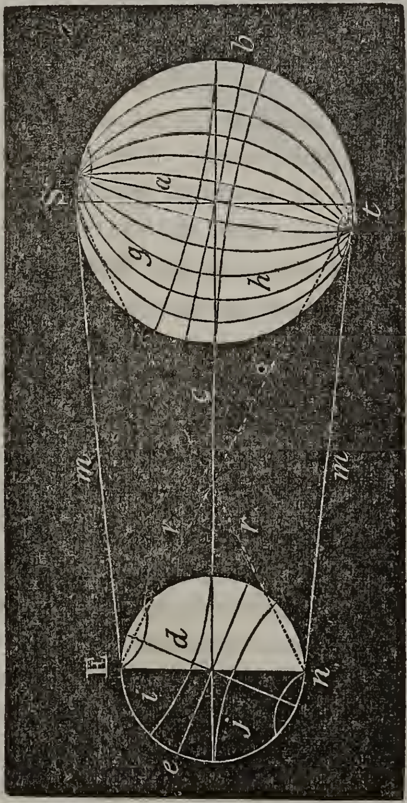
A. To answer that question in the affirmative, it is only necessary to admit a power in the forces from the sun, proportioned to what we obtain with the magnetic battery; for by bringing the poles in contact with each other, in *our* atmosphere, they produce the most intense light and heat, and the direction of the attractive force from the surface, and of the repulsive force from the centre of the sun, bring them (as can be shown) in contact in his atmosphere.

B. I see four circular spots in the circumference of this disc, where some of the iron filings stand up on end, and others are turned half round. What does that mean?

A. They are the offsprings of the large pole in the centre. It has made four poles and pushed them into the circumference of the disc, and it is the action of the forces from the small poles that makes some of the iron filings stand on their ends, and others turn around them.

B. Well, the sun, it has been said, may have formed the earth and planets by its action upon matter in space, and you have here, it appears, a miniature solar system, produced by the action of these forces, and showing at least, a possibility of their production in that manner.

A. There are other and more important facts in confirmation of that supposition in the correspondence of these two innate forces, with the two great divisions of matter ; for there *are* two great divisions of matter, one of which, as alkalies, repel and expand, while the other, as acids, attract and contract. Again, it is well known that the earth is equally divided in the same order, or that the southern hemisphere is in a positive, while the nothern hemisphere is in a negative state; and moreover, that they consequently attract each other, at the same time that the southern hemisphere repels positive, and the northern negative matter. The sun and planets being constituted, and organized in the same manner as the earth, their respective hemispheres, of the same denomination, must repel, while the hemispheres of opposite denominations, must attract each other, when *within* repelling and attracting distances, as seen in this figure.



S, the sun ; *a*, the axis of rotation ; *b*, equator ; S *t*, magnetic axis ; *c*, plane of the ecliptic ; E, earth ; *d*, axis of rotation ; *e*, equator ; E *n*, magnetic axis ; *m m*, continuous lines representing the direction of the attractive forces ; *r r*, dotted lines representing the direction of the repulsive forces ; *g*, the positive, and *h*, the negative hemisphere of the sun ; *i*, the negative, and *j*, the positive hemisphere of the earth. It is now only necessary to apply the simple and universally acknowledged laws of the magnetic forces, to show that the sun S, must compel the earth E, to revolve on its axis ; for the positive hemisphere of the sun *g*, would attract the negative hemisphere of the earth *i*, at the same time the negative hemisphere of the sun *h*, was attracting the positive hemisphere of the earth *j* ; while the hemispheres of opposite denominations, *g j* and *h i*. would repel each other in the direction of the dotted lines *r r*.

The earth being a round body, and having two forces thus acting upon it in opposite directions, would necessarily revolve on its axis with a velocity proportioned to the intensity of the forces, in the same manner as a ball revolves on its axis, when we pull it with one hand on one side, and push it on the opposite side with the other.*

The earth like the ball, it will be seen, must revolve as it does, in the direction of the attracting or pulling forces.

When the earth would be thus revolving on its axis, it would be compelled to revolve round the sun at the same time and in the same direction, for the simple reason that it would be constantly attracted on the west and repelled on the east side, and would perform a revolution in its orbit in a time proportioned to the intensity of the forces and its distance from the sun.

The true cause of the motion of the earth on its axis and in its orbit, is thus shown by the action of the magnetic forces, and in a manner so plain as to make it easily understood by persons of the most common education and capacity, notwithstanding the great difficulties in which the subject has been heretofore involved.

Newton, like the philosophers of the present day, knew nothing of the motion of the magnetic poles, but imputed the cause of the motion of the earth on its axis and in its orbit, to the immediate agency of the Supreme Being, as may be seen in his ninth proposition, in which he says, " That as no mechanical cause can be assigned for the projectile force, none for the gravitating force, and none for the rotation of planets on their axes; so all those phenomena must be referred to the immediate agency of the Supreme Being."

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* The forces act simultaneously on the opposite sides of bodies as is demonstrated on the magnetised ring.

Sir Richard Philips has promulgated a gaseous system of astronomy, founded on the assumption of the equal densities of the sun, earth and planets, and their momenta among one another in an elastic medium, which is equally subject to the necessity of the same marvellous interposition besides that of enchantment or witchcraft.

Newton supposed that when God made the earth he gave it a push, and that from that impulse it would have always moved in a straight line, but for the gravitating or attracting force of the sun, which compelled the earth to change its course; but as it was in constant danger of falling into the sun by the long continued action of this force, notwithstanding the first prodigious impulse, he in his eagerness to prevent it, founded a theory of a projectile or repulsive force, for keeping the earth at a respectful distance from it, on the ridiculous assumption of a fall of the moon sixteen feet in a minute, which he applied to the earth, and in this way demonstrated most minutely in his own mind, as well as in that of most of his readers, the stability of the earth in its orbit.

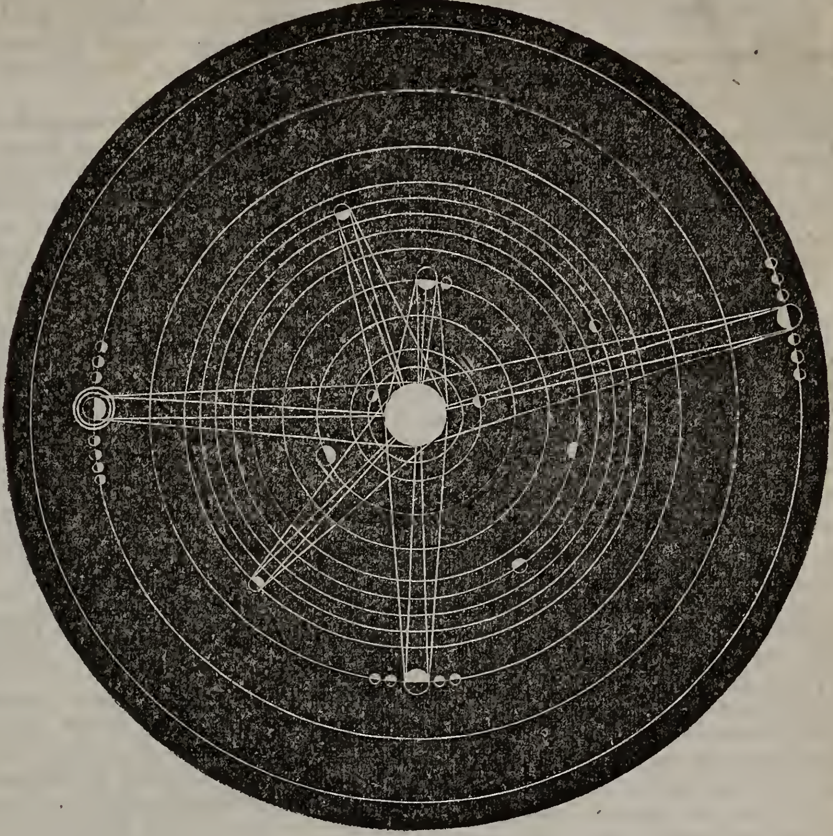
Sir Richard Philips has, however, had the presumption to deny the accuracy of Newton's calculations, in regard to the distance the moon falls in a minute which according to his theory is 128,814 feet instead of 16; and he applies it to the earth, and in this way obtains a tremendous projectile force, and accounts for the stability of the earth in its orbit, by the assistance of this new moon story, with the same minuteness that Newton did, with 16 feet fall of the moon in a minute, and with all the gravity and solemn emphasis due to such a subject, notwithstanding the glaring absurdity of the attempt to obtain an increase of the projectile out of the gravitating force, whenever and wherever it might be necessary to suit his theory.

B. I see that the facts you have adduced are perfectly fatal to the theory that all particles of matter mutually attract each other in the direct ratio of their masses; for as you say it might be as truly said that all bodies mutually repel each other in the same ratio of their masses. There is, however, another fact connected with the Newtonian theory that may help us out of this difficulty, and as I presume you do not intend or wish to demolish the whole fabric on which this system is founded, I will mention it. It is this, "A double projectile force, balances a quadruple attractive one."

A. Yes, at short distances from the bodies from which the forces emanate, but as the projectile force decreases in direct proportion, and the attraction only as the cubes of the distances, they are consequently balanced at a certain distance, and also at uncertain distances, according to the density of bodies with which they come in contact, as in the case of the earth and planets. That appendage to the theory of universal gravitation cannot therefore save it from the fate of every other not founded on the laws of these forces.

B. I can now see that the projectile force, which as in the case of the iron filings, expands, must necessarily lose power in some proportion, and I should be pleased to see an example, if you can conveniently give one, which shows it to be direct.

A. I Can readily do so, and will illustrate it in this drawing of the solar system, in which the repulsive force is represented in lines drawn from the centre of the sun to the surface of the planets, and the attractive force by lines drawn from the surface of the sun to the planets. Now there is always a magnetic axis or principal magnetic meridian between poles of opposite denominations, whether they are of the same body, or poles of different bodies, when they are within attracting and repelling distances, and the line drawn here from the *centre of the sun, to the centre of the earth,* represents the principal meridian between them, and corresponds with the principal meridian or *line of no variation* of the earth.



The sun moves on its axis from west to east, and consequently moves the earth and planets on their axis, and in their orbits, by the action of his attractive force in the same direction, while the repulsive force maintains them at their respective distances from him, and at the same time moves their lines of no variation from east to west, or in a direction opposite to that in which the earth and planets are moved by the attractive force; for this economy is a necessary consequence of the action of these forces in opposite directions. Now the distance which the line of no variation of the earth is moved by the repulsive force, in one year, or in the time the earth performs one revolution in its orbit is 32′,26″, as is ascertained by numerous observations, and this corresponds very nearly with the mean diameter of the sun (32′,03″) as found by observations at its greatest and least distances from the earth; and as the visual angles of bodies decrease in direct proportion to distance, it necessarily follows that the repulsive force from the sun decreases in the same proportion.[*]

B. Barlow, I recollect, calculated the annual rate of motion of the magnetic poles, and of course the line of no variation at 25′ and the line of revolution at about 860.

A. I know he did, but his calculations were founded on assumptions which were eroneous.

The time of revolution is 666 years, and this number has a very important relation to our system; for the magnetic poles and line of no variation of the sun, earth and planets, perform a revolution around these bodies in 666 of their years; and it is easy to determine by this and their distance from the sun, their annual rate of motion, but it is getting late, and we must defer any further conversation upon this interesting subject to a future period.

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[*] 32′,26″ is the true mean diameter of the Sun, as seen from the earth—it does not vary from it one second, and astronomers will please correct their observations.

The "Water-Cure" Analysed.

From the London Lancet.

As we stated in our last number, on examining the various elements of which the hydropathic treatment is composed, we find that they may be reduced to the following.—The temporary application of cold to the skin after copious perspiration has been produced without artificial heat, total abstinence from all stimulating fluids; simple diet; early hours for rising; and regular bodily exercise.

With the exception of the first, the one, it is true, on which the greatest stress is laid, all these means of treatment can only be considered as hygienic agents; and if we analyse carefully the sweating and bathing processes, we find that they are merely the application to disease generally of agencies, the use of which has been, from the earliest times, familiar, not only to the profession, but to the public at large. To appreciate correctly the influence of the hydropathic medication we must recall to mind the physiological action of cold water on the human frame. Immersion in cold water produces a sudden shock on the nervous system, and is immediately followed by contraction of the cutaneous capillaries and retrocession of the blood from the external to the internal regions, the nervous system, however, soon rallies, and the heart impelling the blood with renewed vigour, it is returned to the periphery of the body, distending the capillary vessels which it had previously abandoned, and giving rise to an universal glow or sensation of warmth. The intensity of this *re-action*, as it is called, depends on various causes, one of the most important of which is the state of the skin previous to immersion. If its circulation is active and vigorous, and if, consequently, the surface of the body is warm, the re-action is certain, prompt, and vigorous. If, on the contrary, the circulation of the skin is sluggish, deficient in energy, the reaction is incomplete, or may be absent entirely. In this case the person who has been immersed, on getting out of the water, shivers, feels an universal sensation of cold, pain in the chest, cephalagia, and may not experience reaction for some minutes, or even hours.

The above principle, that the intensity of reaction after the application of cold depends chiefly on the previous vigour of the cutaneous circulation, has scarcely been sufficiently appreciated by hygienists. It is this principle which explains the inocuity of the cold-bath as used by hydropathists in some diseases.—By wrapping their patients up in a blanket, or in a wet sheet first and then in a blanket, as soon as they awake in the morning, when they are warm, and the circulation of the skin is active, perspiration is easily produced; and it is whilst they are in this state, whilst the cutaneous circulation is the most vigorous, that they are plunged into cold water.—As might physiologically be expected, the reaction is generally prompt and energetic, and thus the tonifying effects of the cold-bath are often obtained with patients who would not have had sufficient warmth of skin or vital energy to react against the cold-bath, as usually employed.

But this mode of administering the cold-bath and the physiological data on which it is justifiable, are not new to the profession. With the exception that before Priessnitz the sweating stage was produced by artificial heat, which in our opinion modifies but little its physiological action, it has been known and put in practice from the remotest antiquity up to the present day. The Romans of old were in the habit of sweating in the *sudatorium*, and of then throwing themselves into cold water. The Russians and Finlanders of the present day remain for many minutes exposed to vapour heated to 150° Fahr. and then throw themselves into water just above the freezing-point, or roll themselves in the snow. Even in our own country, where such practices are not in use, it is generally understood that a person may throw himself into cold water when warm or perspiring from exercise without the slightest danger. Indeed, if ladies catch colds, pneumonias, &c., by coming out of ball-rooms, and heated localities, a circumstance which is much less frequent than is generally supposed, it is not because they come out of a very warm locality into a cold one, for the warmer the skin is the more able is the economy to resist the action of the cold, but because small portions only of the cutaneous surface, the neck and shoulders, for instance, are exposed for a considerable length of time to the action of the cold air. How seldom do we hear of men, whose clothing is such as to place the entire economy under the same hygienic condition, experiencing any inflammatory attack from such a cause. In northern climates, where the houses are heated in their totality, attacks of bronchitis, laryngitis, &c., are, we believe, much less common among the higher classes than in our own country, although the cold out of doors is much more severe. The reason is that the skin being thoroughly warmed when they leave their dwellings the system is much better able to resist the action of the cold, to react against it.

If the view we have taken of the action of cold water on the skin is correct, and it is the one entertained by all the first physiologists and hygienists of the day, the sweating and bathing processes of the hydropathists are reduced to little more than a novel mode of applying the cold-bath and of ensuring its efficiency in delicate constitutions. It is merely the exaggeration of the cold sponging in the morning, or rising warm from bed, which medical men so often recommend to their patients.

As to the abundant perspiration, respecting which so much is said, and which is stated to be so extremely efficacious, it is, in reality, of very little importance whether it be produced by rolling a person up in blankets, and thus arresting the natural evolution of heat from the skin until that organ relieves itself by abundant perspiration, or whether it be produced by the direct application of moisture and heat combined in the shape of heated vapour. The effect, as regards the elimination of a certain proportion of the animal fluids through the medium of the skin, is the same.—And yet these are the novelties brought forward by the hydropathists,—novelties, the nature and action of which every medical man has learned as part of his professional education.

The means of treatment which constitute hydropathy, considered as a portion of our therapeutical arsenal, are powerfnl medical and hygienic agents, but can only be adopted as a panacea for all diseases by the ignorant public, or by such medical men as wish to raise their own fortunes on the credulity of others, or are destitute of that valuable faculty which we alluded to in a former number—*common sense.* By attention to diet, by moderation in the use of stimulants (or in some cases, by abstaining from them entirely,) by exercise, by early rising, by cold ablutions, we preserve health ; and in a long series of dyspeptic and nervous disorders, occasioned by town life, in which the stomach is often overloaded with food, stimuli are taken in excess, exercise is neglected, late hours are kept, and the mind is continually on the stretch, attention to these points is equally successful. in restoring lost health. Cures are, indeed, every day effected by all medical men who practice extensively our profession, through the action of the above means, and that without their demanding of their patients the sacrifice of their residence or occupations, and, without anything more than a placebo in the shape of medicine being administered. Is it then extraordinary, that when we add to their agency freedom from the harass of business, the novelty of a picturesque highland residence and a military-like regularity in the execution of the plan laid down, that many thus affected should rapidly recover at Graefenberg, Marienberg, Malvern,, or other similar places.—We must not also forget that the hydropathists have many advantages in the application of their hygienic rules over regular practitioners. They *make* their patients get up at five, abstain from stimuli, take long walks, &c., whilst members of the faculty in general can only *advise* those who place themselves under their care to follow such a course, for they have not the halo which public opinion gives to novelty and more especially to all panacea-mongers.—Priessnitz, the peasant, is said to rule over lords and ladies, at Graefenberg with a rod of iron. His very nod is obeyed by his patients; whom he never deigns to acquaint with the motive of his prescriptions. What would a West end fine lady say of her physician, if he *insisted* on her getting up at five o'clock, taking a cold-bath, and then walking round Hyde Park a couple of times before breakfast? He would be called a fool and dismissed.—But the same lady will submit to this, or anything else, if it comes from a Morison or Priessnitz. or even from one of their more humble followers.

No doubt, in cases such as those we have just mentioned, the cold-bath, which Dr. Forbes justly calls the most powerful tonic of the Pharmacopæi, is a valuable adjuvant, but we much doubt whether its efficacy is much increased by the immoderate sweating that precedes it. It appears that in a great number of cases, after a certain time, numerous boils and abscesses appear on the skin, and in the subcutaneous cellular tissue. These are appealed to as indicating that the pecant humours of the blood have made their way to the surface of the economy ; but every rational medical man must give a very different interpretation to the manifestation of such phenomena. They can in reality, only be considered as the result of repeated and long-continued irritation of the skin, and must do harm by their reaction on the system generally.

There is another class of diseases in which the hydropathic treatment is calculated to be beneficial, viz, in rheumatic and gouty engorgements of the fibrous tissues of the joints. In these cases, it is more especially the sweating and bathing that act on the engorged tissues, gradually promoting a healthier action of the absorbents, and favouring the resorption of the effused lymph. In gouty constitutions, the hygienic treatment resorted to is also precisely the one calculated to modify the constitutional diathesis. If we could always persuade a patient who consults us for the first fit of the gout, to drink water for the rest of his life, to take exercise, and to diminish by half the amount of animal food he is in the habit of taking, there would be but little chance of a rectum of the attack. But although we think hydropathy harmless, or even beneficial, when directed against the sequelæ of gout and rheumatism, we are very far indeed from admitting this to be the case during an acute attack of gout or rheumatic fever. The experience of ages tells us that in such cases there is a general inflammatory diathesis which explodes in the local inflammation and that if re-percussion of that local inflammation takes place, there is danger of the inflammatory action settling on some vital organ, and terminating the life of the patient. It is generally acknowledged to be of such extreme importance to prevent this translation of the disease from the extremities, that no physician in his senses would ever dream of preventing, by cold local applications, the manifestation of an incipient attack of gout, and would even be very careful how he applied cold to a person subject to gout in the interval of the attacks.—This remark applies more especially to persons advanced in life, as they with difficulty resist even common inflammatory attacks of the more important viscera. There can be no doubt that Sir F. Burdett's death is to be attributed to the neglect of thls pathological principle. In nearly all acute diseases we should be inclined to consider hydropathy a most dangerous practice.

The practice followed by most of the professed hydropathists, as compared with their pretensions, stamps them as impostors. They profess to be able to treat and to cure all diseases by means of "the water cure," and at the same time it is notorious that they select their cases, principally choosing the forms of disease we have enumerated as likely to be benefitted by the plan of treatment which they follow. It is a general remark among those who have written on the subject that the persons who sit down to the "table d'hote" of the hydropathic establishments on the continent, are, generally speaking, as healthy and cheerful a set of people as you could wish to meet with. Dr. EHRENBERG, the hydropathist who was refused a license to practice by the French Academy, states in one part of his work,—"I expected to find at Graefenberg a reunion of the most varied and severe maladies, and on every side I only saw robust bodies, and fresh countenances. It was only several months afterwards that I perceived some who presented external traces of a deep-seated vital affection." PRIESSNITZ exercises great discrimination in the choice of his patients, refusing those who appear to present traces of deep-seated disease. We believe his example is followed by his English disciples; indeed, there cannot be a greater proof of the fact than the printed assertion made by one of them, that out of five hundred patients he has not lost one.

Hydropathy which is now in the zenith of its fame, will have the fate of all other medical impostures. In the course of a few years it will be abandoned by the public for some other novelty, and this will continue to be the case until the Legislature steps in to shield the public and the profession from the inroads of quackery.

We think we cannot better close our remarks on hydropathy than by quoting the conclusion to which the French Academy came on the government referring to it as to the propriety of allowing a hydropathic establishment to be formed in Paris.

1. That hydrotherapy is a dangerous therapeutical method which does not rest on facts.
2. That its theory is chimerical.
3. That it is in disaccord with our chemical and pathological doctrines.
4. That the Academy cannot in any way approve of it.
5. That the use of cold water has been long in the domain of medicine, and submitted to known rules.

* * *

Digitalis in Epilepsy—Dr. Scott, of Liverpool, describes some cases of sthenic epilepsy which seem to have been successfully treated by tincture of digitalis administered during the premonitory stage, in full doses, and continued until it produce some effect. This remedy deserves attention, as calculated to subdue the increased vascular action which in many cases precedes the epileptic convulsion. Dr. Scott, judiciously remarks, "In the sthenic species of epilepsy the premonitory symptoms which have come under my observation, have usually been those of nervous and vascular excitement, gradually increasing until the cerebro-spinal congestion has been sufficient to produce the paroxysm; and it seemed reasonable to suppose that if the excitement could be allayed, the paroxysm might be arrested, and by continued prevention the disease might be eventually removed, provided it was not dependent upon organic causes. This has been effected in so many instances, by the instrumentality of digitalis, without detriment to the powers of the constitution, that I cannot but think that it presents a valuable resource, and is deserving of a more extended trial in similar cases."

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Incontinence of Urine and Enuresis Cured by Electricity. — Incontinence of urine frequently comes on after severe rheumatic and gouty affections. In many cases these affections have been referred to affections of the spinal marrow; but M. Froriep denies this, as any affection of the lower portion of the cord, which would cause paralysis of the bladder, would at the same time produce some paralytic symptoms in the voluntary muscles of the lower extremities. He refers it, therefore, to a local affection of the bladder itself, to an affection of the nerves, or the muscular fibre, or of both. Taking this view of the question, he resolved to try the effect of the application of the local application of electricity. A metallic stilet, terminating in a button-point, is introduced into the bladder, with the aid of a gum catheter, which envelopes the whole but the button-point. The handle of the stilet is then connected with one of the wires of the electro-galvanic battery, while the extremity of the other wire is pressed against the pubes. The electric current is passed through the bladder for a quarter of an hour each day. The bladder in general retains the urine better the very first day after the application; but the application requires to be renewed at intervals, till the bladder recovers its full power. Several cases are related of this affection, in people from thirty to forty years of age, in whom the affection was completely removed by the electricity. M. Froriep has found this agent equally powerful in removing the weakness on which the enuresis of children depends. In some cases, he found one application of the electricity remove the disease; in others, it required to be repeated at intervals. He found that, in weekly children, a few doses of iron confirmed the cure.—*Idem.*

Human Magnetism.

Amputation performed during the Magnetic Sleep.

The *Wolverhampton Chronicle* contains the following extraordinary statement; for the accuracy of which it vouches:—John Marrion, aged forty-five, residing in Canlane, Sedgley, received an extensive injury of the middle finger in January last, and became a patient of Messrs. Thompson and Dunn. It has since been treated by those gentlemen in the usual manner, but the nature of the injury rendered amputation necessary. With a view to test mesmeric sleep, Marrion consented to the proposal to place himself under the treatment of Dr. Owens, and on Sunday week, for the first time, he was magnetized. The patient was afterwards daily magnetized, and the case created intense interest in the public mind, more particularly among medical men, who attended in numbers every day to mark Dr. Owen's progress. On Saturday the operation was performed, and Mr. Dunn's room was thronged with medical and other gentlemen, to witness the event. The patient, on being brought into the room, appeared rather flushed, but Dr. Owens addressed him in a lively and friendly manner, and he took his seat evidently quite composed. In two minutes and a half deep sleep was produced, but the doctor kept his position some time longer. Dr. Mannix then felt the patient's pulse, which beat one hundred per minute. Some questions were put to him while in this state by Dr. Owens, and language being excited,he said he felt very comfortable. "Proceed with the operation," said the doctor; and in one minute Mr. Dunn had performed it very neatly. The cutting the flap and the dividing of the bone by the nippers was watched with breathless scrutiny by all present, but not a muscle quivered nor did a sigh escape, nor did any single thing occur to betray the slightest sensation. During the dressing of the arm the hand was suspended over the table in a cataleptic state, without any further support. Two minutes after the operation Dr. Mannix felt the man's pulse—it was still 100. Dr. Owens then excited laughter, and the patient laughed happily, evidently quite unconscious of the relief he had undergone. Some time elapsed during which he continued sleeping, and on being questioned in that state he was not at all aware of what had been done. Being awoke (which was done instantaneously by Dr. Owens touching the organ of firmness, which seemed to act almost miraculously,) and finding his arm in a sling, he ejaculated—"Thank the Lord for that." In reply to questions, he said he had not felt it. Every gentleman signed the minutes, which were noted by Mr. Gatis, during the operation, when a liberal subscription was raised for the man, and Dr. Owens was warmly congratulated.

There is no reason to doubt the truth of this statement, as it is gravely put forth. It deserves the timeliest and most careful consideration of the many surgeons and scientific men, who doubt the efficacy of magnetism in this application. If the most fearful operations of surgery can be performed without any pain, almost without inconvenience to the patient, many a pang will be saved to humanity. An agent that has such wonderful power over the human frame as this has, should at once attract the careful and unprejudiced study of the natural philosopher and practical physician.—*Ed. Magnet, June*, 1844.

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Period of Incubation in Syphilis.—Ricord says, when indurated chancre exists, a true syphilitic diathesis is established, and accidental circumstances alone are necessary to bring about its manifestation. The interval, which separates indurated chancre from secondary symptoms, may truly be considered as an incubation, during which a ferment mixed with the blood (syphilis larvee, Baglivi), and circulating with it, modifies its composition in such a manner, as to render it, in some measure, unfit for proper nutrition on the one hand, and on the other—under the influence of circumstances which have no action on the healthy individual—to give rise to a series of symptoms which have received the collective name of secondary syphilis. This interval of incubation is shorter in the child and female than in the male adult. It lasts from three to four weeks to as many months in general, the average being six weeks. A sudden change in the external temperature, the excitement caused by alcoholic stimulants, or even local causes, or warm or cold baths, the action of a short pipe on the lips, neglect of cleanliness, diet of an exciting nature, the exercise of riding—such are the most frequent determining causes of the first outbreak of secondary symptoms.

The Effects of Mercury on Cattle.—“ A cow had been very much infested with large black lice, to destroy which the unguentum hydrargyri had been freely used. She was salivated, being well supported, however, with decoction of linseed; in a few days the effects of the mercury began to subside; but the result was, that the hair of her ears sloughed off close to the head, and likewise the points of both the ossa calcis, and to such an extent that one of the tarsal joints was left open, which caused no little trouble to stop the escape of synovia. Her tail, likewise, became almost denuded of hair; nevertheless, she ultimately rallied, and milked well in the following summer.”—*Veterinarian.*

Tapping the Chest is usually performed in front between the sixth and seventh ribs, where the serratus magnus and obliquus externus muscles digitate. On this subject Mr. Colles remarks, “ The place to operate on in empyema is in my opinion, referable to the inferior angle of the scapula. Place your patient on the side opposite to where the matter is; place his arm of the affected side on a line with the body, the elbow being just over the highest part of the crest of the illium; you then have the scapula fixed; then measure four fingers’ breadth downwards from the angle of the scapula, and four fingers’ breadth transversely from the spinous process of the vertebræ (to get clear of the thick mass of muscles near the spine) until it meets the perpendicular line, where they decussate, there you should puncture. You are first to make an incision three or four inches long in the transverse direction through the skin, next through the latissimus dorsi, and next through the intercostal muscles, and then you get upon the pleura. Now some advise you to tear through the pleura; but in many of these cases the membrane is thickened by disease, so as to be several inches thick, and you might be tearing until you were tired before you could get through. I once operated for empyema until the whole knife was in the wound.”—*Dublin Medical Press.*

Prophylactic virtues of Belladonna against Scarlatina.—“ A curious fact is mentioned, under the head of the solanaceous narcotics, in support of the supposed efficacy of belladonna as a preventive of scarlatina. A child was brought home from school ill with this fever, and M. de Lens caused all the family to take belladonna as a preventive, except one the grandmother and she was the only person who received the infection. The form and dose in which it is given, for this purpose, are as follows:—Fifteen centigrammes of the extract are dissolved in thirty grammes[*] of distilled water, and of this two or three drops are given night and morning to infants one year old or under, three or four drops to children of two years, and so on progressively, so that the dose for an adult is fifteen drops. It appears that the reputation of this prophylactic course of treatment is pretty firmly established in France, and so much so in Germany that it has been frequently recommended by authority during violent epidemics. We doubt whether it is much in favour with English practitioners; but yet as M. Bouchardat justly observes, it is attended with little trouble, and no possible harm, so that it would be well worth while to take the chance of its being useful. It may do good too, as a *medicine morale.*” *Provincial Journal.*

Paralysis.

Mrs. Pollock 500 Greenwich-Street, had a paralytic shock about 6 months since, which palsied entirely the left half of her body and limbs, the common remedies were applied without benefit. On the 23d of May last, Mr. D. B. Crist commenced mesmerising her daily, and on the 4th sitting she raised her hand to her head, and after the 7th sitting she was able to walk without assistance, and on the 8th of June inst. she was apparently entirely well, when the sittings were concluded.

Tests for Arsenic. In the *Provincial Journal* (which by the way now issues from its rural retirement, pale, sickly, and attenuated) we find a paper by Dr. Sherman on the tests for arsenic. He particularly alludes to those of Marsh and Reinsch, and their modification recommended in *The Lancet* by Mr. Ellis. The only objection to those tests is the difficulty of procuring zinc free from arsenical contamination. The author is then led to remark that “ there is another test which deserves more attention than it has yet met with, viz. the *decomposition of distilled water by galvanism, to which the suspected solution is added, with pure sulphuric acid,* collecting the hydrogen from the negative pole or zincode of Smee's battery, igniting it and examining the stain left in a glass tube open at both ends. If there is the smallest particle of arsenic, the hydrogen will combine with it, and you then have a stain of *metallic arsenic*, with *rhomboidal crystals;* which you may *oxidise, collect, and dissolve in water; go through the fluid tests, reduce the sulphuret in a tube, and sublime it into arsenious acid again.* This is the most delicate test known, and is *perfectly free from the charge of using any substance in which arsenic can exist.*" It should be remembered that sulphuric acid is not always free from arsenic. The only satisfactory means of ascertaining the purity of the materials made use of is to put the apparatus in action previously to the addition of the suspected substance. If found then to be pure, the experiment can, of course, be relied on.

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[*] It may be as well to bring to the recollection of our readers that a gramme is 15,444 grains by weight; a centigramme, the 100th part of a gramme.

The Influence of Factory Labour on Growth.

Dr. White, in a communication to the Medical Gazette, makes the following remarks, which will not at the present moment be lost on some of our readers:—"It is by no means an unfrequent occurrence in this neighbourhood (Preston) to find newborn infants weigh twelve, thirteen, and fourteen pounds; and the average weight seems to be from ten to eleven pounds.

Notwithstanding the more than ordinary weight of infants at the time of birth, it is worthy of remark that the generality of adults never reach above the middle size, and by far the greatest number are much below it. It is very probable that this may arise from the early age at which children are sent to work in the factories; and that, although the parent plant be impaired from want of proper culture, it preserves within itself the power of propagating a race which, by due and timely training, might become one of the finest in the kingdom."

Treatment of the Erectile Tumours of the Eyelids.

By M. Carron du Villards.

A little girl, fourteen years of age, had presented, since her birth, on the upper eyelid, an erectile tumour, about the size of a grain of coffee. The tumour was of a livid red colour, increased daily, and was excessively tense when the child cried. M. Carron du Villards inoculated the tumour and its circumference with vacine virus, traversing it with a thread impregnated with the vacine matter On the fifth day, the symptoms of inoculation manifested themselves. Five pustules appeared around the tumour, which itself became inflamed. On the tenth day it was covered by a black crust, which came off on the twentieth, leaving a healthy, rosy surface underneath. All traces of the erectile tumour had disappeared.

A child nine years of age, had borne, since its infancy, an erectile tumour in the external angle of the eye. The tumour had never increased in size until the child was attacked with scarlatina. Its increase from that time was so rapid as to alarm the parents, who applied to M. Carron du Villards. Three entomological pins were fixed in the tumour, and their extremities having been bound together with a little silver wire, were exposed to the flame of a wax candle. The tumour became swollen, cracked, and then sank. On withdrawing the pins they brought away a portion of its parenchyma. Eight days afterwards the child was cured.

A pretty young woman, of Versailles, had an erectile tumour, of the size of a pea, on the superior eyelid. After an attack of scarlatina, it became endowed with increased vitality, and appeared ready to burst every time she coughed. In six weeks it acquired the size of an olive. M. Carron du Villards having been then consulted by her family, determined to operate by the coagulating method The tumour was injected by means of Anel's syringe, with a styptic solution. It became black, and then faded. On the fourth day, it was surrounded by an inflammatory circle, and covered by small phlyctenæ. The fifth day a portion of it separated, and the rest dried up. On the eighth day the entire crust fell off, leaving underneath a rosy, new skin, similar to that of a cicatrised blister, without loss of substance or deformity.—*Annales d' Ocultispue.*

Case of Large Ovarian Tumour Removed by Operation.

By Frederick Bird, M. D., &c.

[*Read before the* Medical Society of London, *March* 4, 1844.]

The subject of the case was a lady, on whome he had lately operated for the extirpation of a large ovarian tumour. The operation, although attended by unusual difficulties, had been completely successful. He had been induced to bring the case before the notice of the society, partly on account of the peculiar features it presented, and partly because it afforded a marked illustration of the imperfect state of the means of diagnosis of certain forms of ovarian disease. The subject of the case was thirty-five years of age, married, but without children, and, with the exception of dysmenorrhæa, had enjoyed previous good health. During the last two years the abdomen had been increasing in size, the enlargement having taken place equally on either side, and had been, until within the last six months, quite unaccompanied by disturbance of the general health. Pregnancy was for some time supposed to exist, and, under that impression, no recourse was had, until lately, to remedial measures. The abdomen had, within the preceding four or five months, enlarged much more rapidly than before, frequent vomiting and protracted diarrhœa then occured, and general emaciation succeeded. Two months ago, Dr. Frederick Bird saw the patient, in consulation with Mr. Hale Thompson and other gentlemen, at which period the abdomen had a circumference of forty inches; fluctution appeared very distinct in every direction; the thoracic cavity was much encroached upon by the large size of the tumour, she was greatly emaciated, and it was evident that the constitutional powers were fast sinking beneath the disease. Dr. Locock, Dr. Hamilton Roe, Dr. Hodgkin, Mr. B Phillips, and others, subsequently saw the patient, and the operation for extirpation was finally determined upon.

The same preliminary treatment adopted in his former operations have been employed. Dr. F. Bird commenced by making a small incision in the linea alba, and a little below the umbilicus, and on exposing the peritoneum, the cyst was found to be adherent; the adhesions were then examined, and Dr. Locock concuring in the operation that they would admit of separation without any great difficulty, the incision was enlarged to about five inches, so as to readily admit of the passage of the hand, which was next cautiously introduced between the surface of the tumour and the parietes of the adbomen; the adhesions were found to exist in every direction anteriorly, but, excepting in some few parts, gave way readily to the presence of the fingers; all the adhesions having been thus detached, and it having been previously found that the contents of the cyst were not fluid, an incision was made into it, and its bulk considerably reduced by the withdrawl of several pounds of the firm gelatinous mass by which it was filled, and as soon as the tumour began to protrude from the wound, it was firmly grasped by the foreceps, the incision carried upwards to about three inches, and the remaining part of the morbid growth removed from the cavity of the abdomen; the wound was then closed, and secured by sutures, the vessels of the pedicle having been previously tied and divided, and the ligatures fixed at the lower end of the incision. But little hæmorrhage occurred and the operation was borne remarkably well by the patient, her pulse, at its conclusion, exceeding but by two beats the frequency observed during several days prior to its performance.

No pain, or other local symptom, was felt after the operation; reaction soon appeared, and as quickly subsided; the patient passed a good night, and at the end of a few days had quitted her bed; the wound rapidly healed, and all the ligatures were removed before the end of the fourth week after the operation. The patient's convalescense had not been retarded by any subsequent symptoms, and she is now in complete health.

The tumour weighed thirty-five pounds. It consisted of the right ovarium, enlarged by the development of one large primary and several secondary cysts. The parent cyst was filled by a firm gelatinous secretion, varying in color and in density, the difference in color being apparently due to the amount of blood sent to its several parts, the deepest color being observed at the lowest portion of the mass. In some parts was opake and striated. There were several vessels of large size traversing the interior of the tumour. The pedicle contained three arteries, of which one was large; the contents of the secondary cysts did not essentially differ from that contained in the primary one. The external surface of the tumour was irregularly covered by false membrane, which, in some parts, was of considerable density and firmness.

In making some remarks upon the preceding case, Dr. F. Bird said, the attendant circumstances of the operation, in the present instance, had confirmed him in his opinion of the advantages to be gained by the employment of an incision of mediate size; the separation of the adhesions had, in this case, been found neither a tedious or difficult proceeding, for the tense condition of the abdominal walls not having being destroyed by the large abdominal section, the hand was no sooner introduced laterally between the parietes of the abdomen and the contained tumour, than the adhesions were put upon the stretch, and, in that state, readily gave way before the presence of the fingers Had the abdominal walls been more extensively divided, the detachment of the adhesions would have been a more difficult, and probably a more dangerous proceeding. Although the tumour was of large size, and did not contain any fluid, yet it was removed without having recourse to the very large incision.—The history of the case had afforded no reason for believing that inflammation had occurred at any former period, and the adhesions were neither detected nor suspected. It was difficult to determine the period for which the peritioneal adhesions had existed; but the thickened, and in some parts well organised form of the false membrane, scattered over the surface of the tumour, seemed to indicate that they were not of very recent date. It was worthy of remark that, since the operation, the menstrual function had been twice performed, and on neither occasion had the paitent experienced any of the severe pain from which she formerly suffered.

On the true Character of Idiopathic Erysipelas.

By James Arthur Wilson, M. D.,
Physician to St. George's Hospital.

There is a short severe fever, at all times sporadic in this country, and occasionally prevailing with epidemic frequency,—a fever which, though uniform in any given number of cases, as that of measles, small pox, or scarlatina, is not yet associated by nosologists or practitioners with its proper class of acute eruptive disorders, but is known only by a name common to it, with various other affections of the skin, some of which are not febrile, and are comparatively of trivial importance. The idiopathic erysipelas of the head and face is a disorder essentially constitutional, specially determined to certain structures—pervading every one—engaged from the first in limiting its own action—and fulfilling within a given period of time, in its operation on the skin, as generally in the system, every condition of the regular eruptive fever.

In one of the last instances of idiopathic erysipelas that fell under my care, the patient, aged 53, formerly an officer in the British army, was admitted with every symptom of the disease into St. George's Hospital on December 20, 1843. He was taken ill, ten days before, while on his way to London, having been previously exposed to wet and cold, and suffering much from anxiety of mind. When I first saw him, on December 21st, he was under the full influence of the fever, exhausted, prostrate, and nearly blind. His face, universally swollen, was rough on the left side, with extensive desquamation, and disfigured about the lower part by thin black crusts of lymph and cuticle. On the right cheek vesication was still in active progress. The pulse was full and frequent, the tongue much coated. On December 23rd the inflammation had extended to the right ear, where it ceased to spread. Two days afterwards, the symptoms, both local and general, had entirely subsided. The attack, in this case, began on December 11th, with a sense of general illness, and pain over the left side of the face. It was not until two days afterwards, on December 13th, that the local inflammation declared itself by heat, swelling, and redness, in the upper part of the left cheek. This is a fair sample of the fever in its usual form and average degree of intensity.

One of the first cases that compelled my attention to the regularity of period in idiopathic erysipelas was that of a young gentleman, whom I attended under a severe attack of this fever, in July, 1829. The local inflammation, which was exceedingly severe, occupied both sides of the face, the forehead, and anterior scalp. There was high fever, with delirium, at times loud and maniacle; the breathing was much disturbed; the tongue remarkably black and dry. When I first saw him he had been three days ill. In five days more all the urgent symptoms had subsided.

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In another case, which occurred at the close of the autum of 1830, and which afforded me an opportunity of studying the disease by personal experience of its effects, the first symptoms observed were general weakness and uneasiness, with a sense of coldness, especially in the legs, and of shrinking in the bulk of the limb. They felt "like cold thin sticks." To this evidence of general illness succeeded, on the same evening, December 2, a cough of the most harassing kind, which entirely prevented sleep, was not relieved by expectoration, and was accompanied by severe shooting pain in the right groin. On the following day there was swelling, with heat and redness in the lobe of the right ear and under the angle of the jaw, which, in the course of a week, had extended over the entire face, and hairy scalp of both sides of the head. The febrile symptoms already mentioned were not alleviated on the appearance of the eruption, but continued to increase, with slight intermission, until December 8, on which day (the seventh from the invasion of the fever,) and during the two following days, the disorder seemed to have reached its maximum of intensity. The tongue was at this time thickly loaded; there was an abhorrence of food, with nausea and occasional vomiting; the bowels were constipated, and the motions obtained by medicine were of a black pitchy appearance. There was exceeding hurry, with perplexity of mind and occasional delirium. The vesications were large and numerous. discharging an acrid matter. During their formation a very copious viscid exupation took place from the inflamed scalp, by which the hair was matted into thick folds.—the inflammation extended from the face backwards, through the nostrils, to the upper pharynx, so that these surfaces remained for a long time sore and disposed to bleed. After eight days of fever the symptoms, both local and general, gradually subsided, leaving a great effect of waste by emaciation of the entire frame, with extreme muscular debility.

The kidneys continued to act very largely during the early period of convalescence; the appetite was greater than it had ever been before or since; but it was long before the function of sleep was recovered. The hair separated entirely from the head, and several small abscesses subsequently formed, one beneath the lower eyelid, two under the chin, and another behind the ear. They were opened in due time by the lancet, and healed kindly.

Two of my medical friends, whom I attended when ill with erysipelas of the head and face, in the years 1832 and 1833, might be instanced in further evidence of the regularity under which the symptoms of this fever proceed and are determined. If they kept notes, as I did, of their own cases, during convalescence, they will find that their sufferings from fever and inflammation were terminated in less than ten days.

Mr. J. G., of Clarges street, complained to me, in the afternoon of April 11, 1832, of chills, heat, violent headach, sickness, and a feeling of general distress. The tongue was very white, but not furred. On the following day black scybala had been voided from the bowels, succeeded by bilious motions; and the headache was relieved. There was, however, a sense of great oppression, with constant nausea, and he had vomited much green and yellow fluid, which was intensely sour to the taste, and instantly reddened blue litmus-paper. On the following day erysipelas declared itself by swelling and redness of the ears and cheek, which in twenty-four hours more, had extended to the forehead and hairy scalp of the same side, and, subsequently, across the nose, chin, and forehead, to the other side of the face. The local inflammation had reached its greatest degree of intensity on April 17th, being the fifth day from the commencement of the eruption and the seventh from that of the first symptoms of the fever. On April 18th the face was paler and less tumid; on the 20th there was general desquamation of the cuticle; and on April 22nd all symptoms of the disorder had subsided.

In the case of Mr. J. P., of Eaton-square, after two days of much constitutional disturbance by chills, heats, and other symptoms of fever, the dusky redness and swelling of erysipelas were first observed behind the right ear on August 7, 1843. The inflammation subsequently extended over the entire face, forehead, and hairy scalp; the vesications were extensive, and there was much fever. On August 15, (the ninth day from the invasion of the local symptoms,) the swelling of the face was fast subsiding, the natural complexion had begun to return, the skin was moist, the pulse natural, and convalescence in all respects fairly established. In this case the erysipelas fever had supervened on the removal of an encysted tumour from the back of the neck. From intimate acquaintance with the patient, and with a full knowledge of the causes in previous operation on his general health, I had every reason to believe that, had he not been attacked by erysipelas, he would have been laid up before the close of the autumn with some other form of fever. Thus it would appear, that a severe constitutional disorder was specially determined in its character by the accident of a local injury.

From these selected instances of idiopathic erysipelas, as from the large majority of a much more numerous record, extending at intervals over a period of sixteen years, the disorder may be described as a severe depressing fever, lasting from eight to twelve days, and determined, by a special effect of inflammation, to that peculiar organic structure, the integuments of the head and face. Like other fevers, it often supervenes on local injuries, or on any of the various causes that induce a bad state of the general health. It attaches specially to certain temperaments, and to particular states of constitution; affecting the limited range of persons liable to it, under circumstances which, in others, would induce the more common varieties of fever. It prevails most in particular districts, and at certain seasons of the year. The late Dr. Warren, in the course of his long metropolitan practice, observed that it was most frequent during the months of spring and autumn, and when the wind blew from the south-west. Idiopathic erysipelas is not so frequent as is generally supposed. On looking over my hospital case-books, from 1839 to the present time, I have been surprised at not finding more instances of this disease. From the information afforded to us in the admirable medical reports lately issued from the War-office, it does not appear to be a frequent complaint among the troops of the British army. Its effects upon structure are so frightfully obtrusive, that they exact an undue share of attention from the clinical observer, and are thus remembered, to the exclusion of cases less prominent in their interest.

A further analogy might be assumed between the erysipelas and common eruptive fever, from the contagious properties which, it is supposed, are inherent to both. With this much-disputed question I do not at present propose to interfere. That during certain states of atmosphere, and of other local influences, erysipelas may, and does, attack many individuals simultaneously, is beyond doubt. That, in some instances, it has been "caught" by one person from another, there is much reason to believe. The eminent physician to whose opinions respecting the disease I have already alluded, did not consider erysipelas as contagious. The president of the College of Physicians, fourteen years back, held an opposite opinion.

When erysipelas of the head and face proves fatal, which seldom happens unless in sequel of some other disease, it is generally found, on examination after death, that the lungs, the serous and the mucous membranes, are the structures in which there is most evidence of organic injury. Like the other eruptive fevers of this country, erysipelas in bad cases, always becomes typhoid towards its close. Its pathology, by dissection, is that of scarlet fever, which, in its several stages, it very much resembles.

On the examination post mortem of a middle aged man, who died with this disease in St. George's Hospital, on June 1, 1837, there was universal thickening of the peritoneum, with an effusion of sero-purulent fluid into its cavity. Recent effects of its same kind were likewise observed in both sides of the chest. The heart was much enlarged by dilatation and thickening of its left ventricle; the aorta was atheromatous, the liver unusually hard, and the kidneys small, mottled, and granular. Thus, according to the routine practice of the day, in this case of mixed acute and chronic disease, bleeding, blistering and other antiphlogistic measures would have been indicated by the symtoms of pleurisy and peritonitis, while bark and wine would have been in demand as specifics for the erysipelas. Can stronger argument be adduced for the revision of much that is dogmatical in our modern practical medicine?

Here, then, is the true character of the disease, with a practical inference for its treatment. Thus, regarding its symptoms, whether local or general, as a train of actions tending of necessity to their own relief, we should, in most cases, be content to watch over their safe development, and to wait patiently for the result; which, in this fever, soon arrives. Idiopathic erysipelas, within ten days from its invasion, seldom fails to cure itself. Like the other eruptive fevers, it occasionally presents itself in a complicated and irregular form, and must then, of course, be treated by means that are special to the case. I have known the erysipelas fever supervene on laryngitis and pharingitis, on jaundice, on phrenitis, hemiplegia, and various local inflammations of the vital or other organs; on the scarlet, rheumatic, and epidemic typhoid fevers.

In a case which I attended in February 1837, the patient, an athletic farmer, past the middle age, was bled five times from the arm before he got well, and the blood taken was in every instance buffy. The inflammation of the skin began in the face, and subsequently extended over the entire surface of the body, not excepting the palms of the hands of the soles of the feet, from which, at the close of the disease, there was desquamation.

In the early days of ordinary erysipelas fever the physician's rule of treatment should be neither specific nor exclusive. The patient is nauseated by the lightest food, his tongue is foul, and his bowels loaded. You would purge him in other fevers; do the same in this. Just exception is taken against the use of purgative medicines, from their supposed weakening effect, in this disease, by those who make no distinction between it and the partial erysipelatous inflammations of the skin. Aperients may, however, be administered with much advantage at the commencement of the fever, and, indeed, during its continuance, with a proper limitation as to their quality and frequency.

Like other epidemic fevers, erysipelas is often first developed from influences that disturb the digestive functions. The tongue is remarkably foul in many cases of this disease, and the motions of a peculiarly dark appearance and pitchy consistence There is every reason to believe that its attacks might occasionally be prevented by the timely administration of brisk aperient medicines. In the first onset of this severe fever, when digestion is arrested, when secretion and general nutrition are suspended; in those days and nights of the hurried pulse, the hot skin, and perplexed head,—of incessant cough it may be, and constant sickness; at this time to cram the patient with bark is to obey a rule by the abuse of its principle.—Salines, rennet-whey, and fresh water are all that the patient needs during the early symptoms of this inflammatory fever.

In our application, by treatment, of these principles to the local effects of the disease, while we are careful to protect from lasting injury the structures in which its action is most declared, we should continually remember, that in the progress of the eruption is the advancement of the cure. It is under an imposed task of swelling, vesication, and excretion, that the skin, which bears the strain of this fever, is enabled to relieve the other vital organs, and in the end to maintain its own integrity. How rash and mischievous the interference that would seek to mislead the actions thus determined to the surface, by the introduction of belladona to the system already charged with morbid poison in the blood; that would prescribe, in all cases of the disease, an exact limit to its erruptive action, by pencilling the inflamed face and scalp with designs in lunar caustic! The mask, which in erysipelas the patient is compelled to wear, should never be adapted by his physician.

There is seldom occasion for external applications of any kind. Even were it possible, by such means, at once to arrest the local inflammation, we should be wrong to employ them. It is essential, for the safe development of this fever to its close, that in the skin, as elsewhere, certain special actions should be suffered for a time. The excessive pungent heat of the inflammation, in its early stage, may be relieved by frequent lotions with the Liquor of acetate of ammonia, diluted with equal parts of tepid water. The continual application of cold is repellent and unsafe. When the vesication has commenced, or is in progress, tepid washes of of soft water, or of thin, smooth gruel are the best. The watery solution of acetate of ammonia may be again used at this time, diluted with hot, well-strained poppy decoction.

It is better not to sprinkle flour upon the excoriated surfaces. While absorbing the acrid discharge, it concretes into a stiff, uncomfortable scab which a little gentle sponging would entirely obviate. To bathe the head and face, according to ordinary practice, incessantly with spirit-lotion is to surround the patient, helpless, fevered, and comatose, with an atmosphere of intoxicating vapour, which at every inspiration, he is compelled to drink. From this most objectionable process of cooling by evaporation there is often a great aggravation of the delirium at all times incidental to the fever.

Idiopathic erysipelas of the head and face is actually treated on this principle of respect for its symptoms by many who have not as yet been taught to consider it as a regular eruptive fever. Its wide constitutional character being thus practically known, there is the more reason to regret that it has not been distinguished by a name less productive of error and false analogies in the management of disease. Under this one designation of "erysipelas," the severe fever in question is confused not only with partial erratic inflammations of the skin, supervening on local injuries, but with frets, rashes, pimples, and scaly eruptions, in all their variety of eczema, urticaria, lichen, or psoriasis. When a patient declares that he has "the erysipelas," no precise idea is given to his medical attendant of the nature of the illness, or of its particular effects on the skin. The extreme and acknowledged vagueness of this term when used by persons not of the profession, prevents error by obliging closer inquiry; but it is very necessary that medical men, in their discussions on erysipelas, should know what they are talking about. The bark, wine, and porter, which, in certain diffuse inflammation of the skin, so rapidly alter its nature and limit its extent, would be utterly condemned in the early stages of idiopathic erysipelas by all physicians conversant with the disease as it really exists. Yet by too many,—especially, be it observed, by the doctors in surgery,—let the case be once named erysipelas, and Peruvian bark is a specific for its cure In the conventional allotment of disease, idiopathic erysipelas, being a fever, belongs of right to the physician. From the limited views that prevail respecting its constitutional character, and from the undue importance attached, in ordinary practice, to the symptoms which it presents in the skin, it is, in many instances treated exclusively by the surgeon, who would hesitate to undertake the undivided responsibility of small-pox, measles, scarlatina or rheumatic fever. This last named fever, regular in its course, and determined, like the others very much to the skin, suggests a good distinctive name for the idiopathic erysipelas of the head and face. For many years past I have proposed to those studying with me in the physicians' wards of St. George's Hospital that we should consent to know the disorder in question under the designation of Erysipelas Fever. We thus merely add to the name by which the disease is already known, a term that vindicates the importance of its constitutional character over the partial and comparatively trifling affections of the skin with which it is now confounded.

This law of regularity in the succession of symptoms, that finds within a given time its completion in their cure, receives a much wider application than is generally assigned to it in the limitations of rational medicine. In many cases of chorea, and in some few of jaundice, that have fallen under my observation, I have seen reason to consider the spasms of the one disease, and the yellow suffusion of the other, merely as symptoms of disturbed general health, working by train and in sequel for a good and wholesome result. The practical application of this principle in the treatment of disease is a continual rebuke to the vanity that would in all cases attribute the interruption or alteration of symptoms to the efficacy of the last prescription.

There is no better test of the physician's professional character than is afforded by his practice in erysipelas. From the rapidity with which its symptoms are developed (generally to a good end) most of the treatment in this fever is superfluous, yet much affects to be specific. And thus the boaster triumphs in a cure where the true physician is content with acknowledging a result. The only explanation of this great regulating agency, under which, as by a clock within us, the effects of fever are determined in a given time, is, from what we notice in the blood, in the stir of its elementary particles, and in the constancy and uniformity of its moving forces.

Idiopathic erysipelas, being a fever, is, of necessity a disorder of the entire blood; and here is the explanation of its wide range of symptoms and pathological effects. If the general material of the body be prejudiced in its elementary arrangement, or in any of its essential functional properties, the business of all structure, and of all parts of every structure, must suffer; and this it may be, to the extent of entire interruption or death. Thus, by a spoiling or a wasting of the general blood in the erysipelas, as in other fevers, assimilation, secretion, and muscular action, are sometimes hastened to their end. With those accustomed to this, the true view of the disease, the partial alterations resulting from its agency in structure are regarded but as so many expressions of a disturbing influence general through the system, as effects and symptoms far removed from the beginning of the fever, giving rise, in their turn, to other symptoms; but seldom of sufficient urgency to be received as the immediate cause of death. It appears by the direct observations of M. Andral, that the blood of a person labouring under an attack of erysipelas contains much more than its healthy proportion of fibrin. M. Andral attaches much importance to this excess of the coagulable principle, and seeks to establish from it an essential pathological difference between fever and local inflammation, which few practical physicians would be disposed to admit.

However questionable the claims of modern physic to much of the superiority which it asserts over that of times past, it is certain that in our practical intercourse with small-pox, measles, and scarlatina, we do not derogate from the wisdom of our later ancestors. Of the few principles which physician-s-now a days care to profess, the best are made available for the treatment of the febrile actions which are determined by eruption to the skin. There is among us, generally, a comprehensive and well-considered view of such action in all its varieties, a nice knowledge of it in detail, a respect for the symptoms by which it is made evident to the senses—a belief in the benevolence of its purpose—and a reliance on the steadiness of its operation towards a speedy and wholesome end. Thus it is good service done to physic, when an unclassed eruptive fever is placed where it of right belongs.

Idiopathic erysipelas has, I am told, been recently classed with the eruptive fevers by M. Rayer, of Paris; but in the various medical reports lately published in this country, it is distinctly separated from fevers of every kind, and is designated in their tabular arrangments as a disease *sui generis.*

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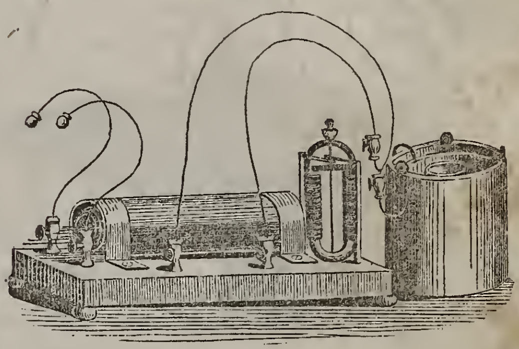
THE ROTARY MAGNETIC MACHINE.

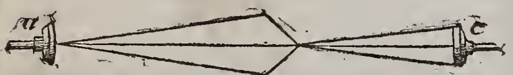


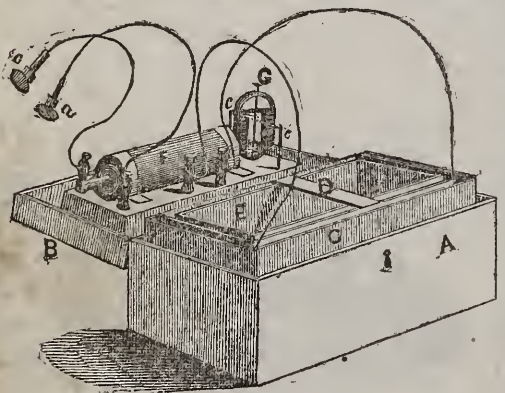
In the April number of this Journal, we gave an engraving of a Rotary Magnetic Machine. The instrument then exhibited is worked by hand. Above we present a drawing of a similar machine, but which differs so far as to be put in operation by magnetic power. The length of that now displayed, including the battery, is 16 inches Its width 4—height 5 inches, and the weight of the whole, the case and buttons, for magnetising, about eight pounds. It is very durable, and is put in motion by a solution of sulphate of copper, the expense of which is very trifling.

The price of the instrument accompanied by the necessary buttons, (6 in number) and case, is $14 50 cents, cash in hand.

The size and weight of the Machine, together with its liability to get out of order, and the complaints frequently made of difficulty in running it, has given us great inquietude, and we consequently determined to obviate these objections if possible, and have at last succeeded in our object, by employing a Jeweller extensively known in the Union, as having no superior in this city, to make the machine under our direction. It has a new and convenient arrangement as represented in the following engraving, and to distinguish it from other machines we have named it the

SAVAGE ROTARY MAGNETIC MACHINE.





The instrument is fitted into a neat Mahogany case (with lock and key) 8 inches long, 4 wide, and 3 deep.

A, case; B, the cover; C, sheet copper vessel; E, sheet copper, the lower edge of which is soldered on the bottom of the copper vessel C; D, copper piece connected with the zinc between the copper surfaces, containing a solution of sulphate of copper; F, cylinder of copper wire; G, magnet and armature; e, e, conductors to the armature; c, negative, and a, positive button for magnetising.

The cylinder, magnet, and armature, with the block of wood on which they rest are very light, and are set on the cover of the case in magnetising; after which it may be placed in the open space in the centre of the case, and the buttons and conducting wires laid over it, and the cover turned over the whole and locked.

The armature is jeweled, and in running is estimated to make more than 10,000 revolutions in a minute. The instrument runs much better, and apparently as well as it is possible to make one run; its power is fully equal to any we have seen, and has besides great advantages in size, weight, and neatness, and will be found very convenient for physicians and private families, and to posses other advantages than those we have noticed.

Mr. Savage is making a machine much smaller and lighter on the same plan, a pocket instrument, which has a power that will be sufficient for ordinary purposes.—He also makes a larger machine, precisely like these, in a neat mahogany case 10 inches long, 5 wide, and 3 deep, more especially for office use which is jewelled and runs in the same manner as that first described.

The price of the Savage instrument first decribed is $15, including 6 buttons of a form we have found necessary and most convenient, with full directions for running the machine, and directions for magnetising, in a great variety of cases, illustrated with engravings, &c.

The price of the pocket instrument in a neat mahogany case 6½ inches long, 3 wide and 2 deep, is $15, including 2 buttons.

The price of the machine last described for office use is $18, including 8 buttons and directions for running, and using it as above. These instruments are very light neat and portable, will run without difficulty, and will last a life time. They will be found indispensible to every physician, and also in many private families, as well as for ships and other vessels.

The figure drawn above the engraving is intended to represent the direction of the forces as they proceed from the buttons in magnetising. *a*, the negative button repels and expands, while the positive button attracts and contracts. Besides one of these forces exerts an alkaline, and the other an acid influence upon the fluids and solids of the body.

We cannot however enter further into this subject at present, and it is not necessary to do so, if the magnetizer observes the directions we have given for magnetizing.

The effects of these instruments are of a character so extraordinary, in both acute and chronic diseases, as to leave no doubt it will produce an entire revolution in the practice of both physic and surgery. It will become indispensible to every physician, and also in many private families, and they are both availing themselves of its benefits as fast as it can be manufactured.

We have been magnetising with these machines for the last six months, and they have thus far realized our anticipations as described in our last number. Since that publication we have tested it in a great variety and number of cases, with results that have been highly satisfactory.*

Among these cases there have been 35 of lateral curvature of the spine; 11 of distortion of the spine; 5 of distortion and lumbar abscess, and disease of the hip joint; 51 of tubercular consumption; 13 of chronic bronchitis; 5 of chronic bronchitis, complicated in its last stage with tubercular disease of the lungs; 11 of tic-doloureux; 2 of tubercular disease of the antrum and nose, 5 amourosis; 8 opacity of the cornea; 2 tumours of the eyelids; 28 sick head ache from tubercular disease of the brain; 1 tubercular disease of the organ of approbativeness, *connected* with tubercula (white swelling,) of the right side and back part of the first cervical vertebræ, involving the upper attachment of the sterno-cleido-mastoid muscle, and producing an impediment in the motion of the right leg; 2 cases of tubercular disease of the organ of firmness *connected* with tubercular disease of the same muscle; 6 tubercula of the cerebellum, connected with tubercula of the uterus, and uterus and stomach; 8 tubercular disease of the ear; 2 paralysis of auditory nerves; 1 hypertrophy of the mucous surfaces of the organs and limbs; 1 acute rheumatism; 18 chronic rheumatism; 7 paralysis; 26 tubercular disease of the throat; 13 secondary syphilis; 5 amenorrhoea; 5 corea—St. Vitus' dance, or tubercular disease of the cerebellum; 2 catalepsy.

A great majority of these cases were complicated with tubercular disease of other organs, as the heart, stomach, liver, kidneys, &c. All the cases of consumption were thus complicated, excepting two, in which the disease had commenced in the stomach, liver, arteries, throat, or brain, before it attacked the lungs. This, we may here remark, we have long observed to be the uniform course of the disease in 9 cases out of 10, showing the importance of attacking it in its transit to that organ.

In the notice of the effects of the Rotary Magnetic Machine, in the April number of the Dissector, we suggested the probability of its great importance in the incipient stage of tubercular consumption, from the results obtained in the few cases, in which we had then used it. Further trials, in more than 50 cases, have not only confirmed that opinion but have shewn it to be very useful in the last stage, especially in promptly reducing the pleuro-peripheumony that often attends tubercular disease of the lungs. In many cases it lessens the cough and expectoration, by reducing the mucous disease of the bronchial tubes that traverse the tuberculations.

In magnetising the lungs, the button conveying the weakest, or positive force, is placed over the posterior spinal nerves connected with them, in the intervertebral spaces, between the 7th or last cervical, and first dorsal vertebræ, while the other, or negative button, conveying the strongest force, is moved slowly over the entire surface of the chest, with the instrument graduated to a moderate power. This practice is adopted in consumption or pneumonia, for the purpose of first exploring the lungs to find the place most diseased, as the action of the instrument will be much more sensibly felt when the button passes over it, and it will require more magnetising than other parts of the lungs.

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* We have had with the assistance of Students, three machines running, almost constantly from morning till night.

In exploring the chest, and in magnetising, whether for disease of the lungs, heart, or pleu a, the positive button should be placed over the left intervertebral space in magnetising the left side of the chest, and over the same space on the other side in magnetising the right side of the chest. In such cases the process is continued only from 5 to 10 minutes, and once a day is generally sufficient.

Turbercula of the heart—hypertrophy. In this case the negative button should be placed below the lower apex of the heart, where it may remain 10 or 15 minutes, under a very moderate power of the instrument.

Pleurisy, Acute or Chronic. In these cases the negative button should be placed over the seat of the disease, or place where the pain is felt, under a very moderate power of the instrument.

Tubercula of the Stomach—Dyspepsia.—The positive button should be placed over the intervertebral spaces, between the first and second, and second and third dorsal verterbræ, and the other button over the stomach. In magnetising the left side of the stomach, the positive button should be placed over the left side of the spine, and the other about two inches to the left of the medium line.—In magnetising the right side, the button should be placed over the right side of the spine and stomach.

Tubercula of the liver—acute or chronic diseases of the liver. The positive button should be placed over the intervertebral spaces of the right side, between the 7th and 8th, and 8th and 9th dorsal vertebræ, while the other is moved slowly around one half of the body, from the pit of the stomach below the short ribs to the spine, and then over the short ribs.

Tubercula of the spleen—acute or chronic. The positve button should be placed on the opposite side of the spine, to that in the case of the liver, and the other button over the left side as in the case of the liver.

Tubercula of the large intestines.—The positive button must be placed over the intervertebral space, between the 5th and 6th and 6th and 7th dorsal vertebræ, and the other over the intestines on the right or left side, as indicated by the seat of the disease.

Tubercula of the small intestines. The positive button should be placed over the intervertebral space, between the 11th and 12 dorsal vertebræ, and the other over the front part of the abdomen, right or left of the medium line, as indicated by the seat of the disease.

Mesenteric Diseases. In these cases the buttons should be placed over the spine and abdomen, as in the instances of the large and small intestines.

Kidneys. In tubercular diseases of the kidneys—acute or chronic, the *negative* button should be placed over the intervertebral space between the 12th dorsal and first lumbar vertebræ, and the other on the opposite side of the abdomen.

Cystis. The positive button should be placed over the same intervertebral spaces as incases of the kidneys, and the other over and above the pubis.

Prostate Gland. In these cases the positive button should be placed over the intervertebral space, between the last lumbar vertebræ and the os-coxgex, and the other over and above the pubis.

Uterus. In magnetising this organ, the positive button should be placed over the intervertebral spaces, between the first and second and second and third lumbar vertebræ, and the other over and above the pubis.

Ovaria. In tubercular disease of the ovary, the breasts or mammæ are not of the same size—that on the same side of the diseased ovaria being larger than that on the opposite side, in consequence of atrophia of the latter from direct sympathy with the diseased ovaria. The positive button should therefore be placed over the atrophied breast, and the other over the ovaria of the opposite side.—The same course should be pursued in *chlorosis, ammorrhoæ, &c.*

Leucorrhœa. The positive button in these cases should be placed over the intervertebral space, between the last lumbar vertebræ and os-coxgix, if tenderness is elicited by pressure there, otherwise it will be found in the lumbar vertebræ, over which this button must be placed. In the first case the negative button should be placed over the front part of the perineum, and in the last over the pubis.

Prolapsus-uteri. In these cases the button may be placed on each side of the pubis, or one button may be placed over a lumbar vertebræ, and the other on the side of the pubis, when the broad dilated ligaments that sustain the uterus will contract with great force.

In tubercular disease of the stomach and uterus—the positive button should be placed over the intervertebral space, between the first and second dorsal, and the other over the pubis, in consequence of the direct sympathy between these organs.

In tubercular disease of the cerebellum and uterus—the negative button is placed over the organ of amativeness, on one side, and the other on the opposite side of the pubis, and we should here observe that females can and should magnetise themselves, in cases of disease of the uterus, and vagina, &c., and should *never* allow a physician to do so, while they have strength to do it themselves, or can procure the assistance of a female.

Brain. Tubercular disease of the brain is distinguished in an instant, by the pain produced by the pressure on the sub-occipital nerves, on the sides of the space between the head and first cervical vertebræ, or joint of the neck, *in the abscence of tubercular disease of the throat.* It may also be distinguished by the pain darting into the brain, when the disease is in its active state, or by severe pain in the head, in the absence of an injury. In magnetising this organ, we should always observe the greatest caution, and always commence with the weakest power of the instrument.

Sick head ache.—The positive button is placed over the organ of amativeness, and the negative over the organ of causality or the opposite side of the head, and moved quickly over that side of the forehead, when the positive button is placed over the opposite organ of amativeness, and the negative over the opposite organ of causality, and moved over that side of the forehead as before. The sitting is thus concluded generally in less than one minute.

In head aches—other than those that are periodical, and called sick head ache, we place the negative button over various organs as indicated by the pain, or seat of disease, while the positive button is moved around the neck.

Tic-Dolroaux.—The positive button is placed over the plexus of nerves, in front of the ear, while the other is passed over the side of the face, and the sitting concluded in a few seconds.

Strabismus—Squinting. The positive button is placed over and pressed in to the corner of the eyelid over the paralyzed muscle, and the other over the opposite corner of the eye, and the sitting concluded in one minute.

Eye.—Diseases of the eye, acute and chronic.—The negative button is placed over the eyelids in these cases, and the other over the back part of the neck, excepting amourosis, in which case the buttons are reversed.

Nose.—Diseases of the nose, acute or chronic. The negative button is placed over the nose in these cases, excepting polypus, in which case the buttons are reversed.

Antrum.—In case of disease of the antrum the negative button is placed over the antrum, and the other over the neck.

Tooth-ache.—The negative button is placed over the diseased tooth, and the other in front of the ear.

Throat—In diseases of the throat, acute or chronic, the buttons are placed on the opposite sides of the neck, under the ear, and moved slowly towards the chin, or the positive over the sub-occipital nerves, and the other on the side of the throat.

Muscles.—Tubercular disease of the muscles —Rheumatism, acute or chronic. Pain is produced by pressure on the intervertebral spaces of the cervical vertebrae, which increases with the intensity of the disease; and in magnetising for rheumatism the positive button should be placed over the back part of the neck, at the commencement, and at intervals during this process—no matter whether the disease is in the arm, finger, leg or toe, The buttons should also be placed, and moved slowly over, and around, and between, the joints. The positive button being sometimes on one joint, and the negative on another.—When the disease is affecting the arms, shoulder or neck, one button may be held a few minutes in each hand.

Paralysis.—In cases of paralysis, patients should be magnetised in the same manner as in rheumatism.

Chorea.—St. Vitus' dance—Tubercular disease of the cerebellum. The negative button should be placed over the organ of amativeness, while the other should be placed on the affected limb, or limbs, of the opposite side.

Epilepsy.—Tubercular disease of the cerebellum. The negative button should be placed over the cerebellum, and the positive on the neck or ear of the opposite side.

Catalepsy.—Tubercular disease of the vermiform process, in the medium line of the cerebellum, (organ of motion.) In these cases the positive button should be placed over the first cervical vertebrae, and the other over the organ of individuality.

Deafness.—Tubercular disease of the eustation tube. In these cases, the positive button should be placed on the tongue and the other on the ear.

Joints and Limbs.—Tubercular disease of the joints and limbs—*white swellings.* In these cases both buttons are moved over and around these swellings, whether in a sound or ulcerated state.

Spine.—Tubercular disease of the spine—distortion of the spine—distortion of the spine and lumbar abscess. The buttons are applied around and over the distortions, and abscesses, as in the case of white swellings.

Spine.—Lateral curvatures of the spine—(See description of the manner of magnetising, with an engraving, in the April number of this Journal.)

Aphonia. — Loss of Voice. Dr. L. D. Fleming, of Newark, N. J., who recovered his voice rapidly under the action of this instrument, thinks it is better to apply one of the buttons—the negative—over the organ of imitation, instead of both on the neck, under the angle of the lower jaw, from the effects produced in his case.

Tubercular disease of the organs is invariably distinguished, in all these cases, by pain more or less severe (in proportion to the intensity of the disease) produced by pressure on the ganglions of the spinal nerves, in the intervertebral spaces along each side of the spine—no matter what name may have been given to the disease by physicians, nosologists, or other medical writers.* It is a disease of the secreting or lymphatic system in the serous surfaces, in which the posterior spinal nerves terminate, and is propagated from the skin to the limbs, and from the limbs to the organs, and from one organ to another. The seat of the disease in the skin, limbs, and spine, is easily seen, and its precise situation in the organs is in general easily determined, by exploring them under a very moderate power of the instrument.

Patients affected with tubercular disease, will bear only a moderate power of the machine, and among these there is a great difference in susceptibility to its action, as in the cases of mesmeric influence. Generally they will bear very comfortably, one half of the power of the instrument, but there are a few that will go into a fainting fit,† or into the mesmeric state, under its weakest power. The greatest caution should, therefore, be exercised in graduating the instrument, especial ly at the first sitting. In fact, children and weak-minded people should never be allowed to use it. The time occupied in magnetising varies in the different cases—generally from five to fifteen minutes, when the magnetic organisation of the system becomes so tense as to give violent shocks to the magnetiser, and sometimes headache to the patient if the process is continued too long.

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* These symptoms are magnetic; for, when we press upon these ganglions in the active state of the disease, the pain will dart into the diseased organ, with a force which increases with the intensity of the disease.

† We have had only two cases of this kind—one, a lady, in magnetising the brain, and the other, a gentleman, in magnetising the chest. They were both very subject to fainting fits from trifling causes.

In nearly all the cases of tubercular disease, other remedies are required to keep up a steady magnetic action. Magnetising restores lost motion in the tuberlucated portions of the organs, limbs, and other structures—sometimes permanently, but generally temporarily, making it necessary for such patients to use other remedies at the same time. With these, in conjunction with the action of the instrument, they recover very rapidly—even cases so far advanced as to preclude any hope of their recovery by any other means. Magnetic or magnetized remedies are the only ones that are of any value in tubercular disease of the organs and limbs. We continue to use the magnetised gold pills in these cases with a success in conjunction with the action of the machine that precludes the necessity of any other, and we should here remark, that the daily effects of the action of this instrument affords the most conclusive and overwhelming proof of the correctness of the magnetic treatment we have long pursued in tubercular disease, and gives us a most extraordinary and glorious triumph over our opponents.

HYPERTROPHY OF MUCOUS SURFACES.

Bronchitis—(Chronic.)—The action of the rotary magnetic machine, alone, will cure all the cases in the first stage of this disease of the membrane that lives inside of the air tubes. The disease is distinguished by cough and expectoration, and the absence of the magnetic symptoms of tubercular disease of the lungs.

The *negative* button should be placed first over the intervertebral spaces, between the seventh cervical and *first* dorsal vertebræ while the other is passed slowly over the whole surface of the chest, including the back part of it, as in the case of tubercula of the lungs, or consumption. The *positive* button is then placed on the tongue, and the other moved quickly over the whole surface of the chest, and the sitting concluded in ten minutes.

In the last stage of the disease the action of the instrument should be aided by the nitrate of silver, which should be ground one hour in a glass mortar, with loaf sugar, in the proportion of 5 grains of the nitrate of silver to 100 of sugar. About a drachm of this powder should then be put into a perfectly dry phial, holding not less than half-a-pint, and then shaken and instantly applied to the mouth, making at the same time a full inspiration in such a manner as to inhale the particles of powder suspended in the air contained in the phial.

Mucous disease of the throat.—This disease is distinguished by hawking and expectoration, and the abscence of the magnetic symptoms of the tubercular disease of the throat.

The negative and positive buttons are applied alternately over the upper part of the neck, or on each side of the throat in these cases. Every case in the first stage of the disease is cured in this way. In its last stage the throat should be gargled with a weak solution of nitrate of silver, once in two or three days.

In diseases of the mucous surfaces of the the organs and limbs, patients will bear fully double the power of the machine, that they will in diseases of the serous surfaces; in fact the greatest power that is borne in diseases of the serous surfaces, whether acute or chronic, will have little or no effect in acute or chronic diseases of the mucoue surfaees, and this fact in a doubtful case is sufcient to determine the true character of the disease, whether in thebrain or any other part of the body.

ACUTE DISEASES—INFLAMMATION OF THE SEROUS SURFACES,—ACUTE TUBERCULA.

The action of the rotary magnetic machine reduce inflammations of the organs and limbs with great rapidity. We have used it in cases of inflammation of the liver, and inflammatory rheumatism, &c. It cured the first in from two to three minutes, and in cases of paralyzed limbs in the last, the progress of the disease from one limb to another has ceased on the first application of the instrument, and the inflammation in the paralyzed limb or limbs soon reduced by a few more applications of the instrument, without the use of any other means whatever. In a letter from Dr. L. D. Fleming of Newark, N. J. he says, "A few weeks since my wife had a most violent attack of pleurisy of the left side. I applied the buttons of the instrument, from one to two minutes. It produced a sensation of faintness, which subsided in about fifteen minutes—since which time there have been no symptoms of the disease. I could add a great many cases of the extraordinary effects of the machine, but time presses hard upon me, and this must suffice."

Inflammation or acute tubercular disease of the serous surfaces of the organs and limbs, is distinguished by the magnetic symptoms, in the same manner as chronic tubercula of these surfaces, and in magnetising in these cases of disease of the organs the positive button should be placed over the ganglions of the spinal nerves, in the intervertebral spaces, and the negative over the seat of the disease in the organs, in the same manner as described in cases of chronic disease of these surfaces. In pleurisy *pleuritis costalis* or *pleuro-peripneumony*, the positive button should be placed over the intervertebral spaces between the 7th or last cervical and first dorsal vertebræ, as in the case of peripneumony or inflammation of the lungs.

The posterior cervical nerves, or those between the first and last cervical vertebræ of the neck, are connected with and terminate in the serous or external surfaces of the muscles (*the fasciæ*) and the internal cervical motor nerves, or nerves of motion with the mucous or inner surfaces of the muscles * In magnetising for rheumatism, acute or chronic, the positive button should therefore, be placed over some one of the cervical intervertebral spaces of the affected side while the negative is moved slowly over the affected muscles or limbs. We have frequently first applied both buttons to a limb in these cases without effect, and have at last been obliged to resort to the manner of magnetising above described, as in the case mentioned of a gentleman with impediment in the motion of his right leg.

Palsy—shaking. In these cases the positive button should be applied to the neck as in the case of rheumatism, and the other to the extremities of the affected side.

Bronchitis—acute.—The buttons should be applied in these cases in the same manner as in chronic bronchitis.

Diseases of the Skin.

The buttons should be both applied and moved over the diseased surface in diseases of the skin, with a few exceptions, as in the case of the face when the positive button should be placed on the ear, or over the plexus of nerves in front of it, while the other is passed over the diseased surface.

We have used the instrument in only a few cases of disease of the skin, and these mostly cases of erysipelas, lepra, *salt-rheum* and herpes. It reduces the most inveterate cases of erysipelas with great rapidity, and the effects in the others have been such as to warrant a belief, that there are very few diseases of the skin, that can long exist under the action of the machine.

Fevers.—From the very favorable effects of the action of the machine in sympathetic, hectic, or irregular fevers, great hopes are entertained of its future success in those that are idiopathic, as intermittent, remittent, nervous, congestive, and yellow fever.

The spine should always be examined in these cases to determine the true character of the disease, whether of the serous or mucous surfaces, and the number of organs implicated in it; and this can always be done with perfect ease and certainty by the presence or absence of the magnetic symptoms. When these are present, the positive button should be placed over the intervertebral spaces, and the negative moved slowly over the diseased organ under a very moderate power of the instrument to find the seat of the disease in the organ, and determine the amount of the power that can be borne with ease to the patient.

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* We long since discovered those connections of the spinal nerves with the different surfaces of the muscles and of the organs, by the magnetic symptoms, and its correctness and importance is now every day demonstrated by the action of the machine.

In the absence of these symptoms, the negative button should be applied to the intervertebral spaces, connected with the stomach and intestines, while the positive is moved slowly, first, over the surface of the stomach, and then over the intestines—observing the rule to have a button over the spinal nerve connected with the organ which we wish to magnetise.

Effects of Magnetising upon the Magnetiser.

We have probably received on an average 50 shocks a day in magnetising our patients, during the last six months, either from accidently touching the unprotected parts of both buttons, or from touching the patient with one finger and a button with the other, and was at first much alarmed at the consequences that might result from it. We have been however not only happily disappointed in our expectations of injury, but have found it a great benefit to us. It has removed it appears every vestige of chronic rheumatism with which we have been much affected during the last 14 years.

We never had so much elasticity in our body and limbs, and never had so much strength, we never walked with so much ease as we now do, and besides, we frequently, even after having gone through a great labor during the day, feel so much elasticity and buoyancy that it is rather difficult to sit or stand still, from a strong inclination to be moving, jumping, or dancing; these sensations are in fact sometimes so strong as to require strong efforts to repress them.

Magnetic Sleep.—A much greater number of persons can be put into the magnetic or mesmeric sleep under the combined influence of the rotary magnetic machine and the magnetiser, than by the common method, or that of the magnetiser alone. We have put persons into that state by the influence of the machine alone.

In the combined operation we place the positive button in the left hand of the person to be magnetised, and take the negative button in our left hand, and then take with the other hand the right hand of the same person, under the most moderate power of the instrument.

When persons have passed into the magnetic state in this way, or through the influence of the instrument alone, they represent themselves as being surrounded with an intense light. They also represent the brain as beaming every where with intense light which gradually disappears, and in 10 or 15 minutes is no longer noticed.

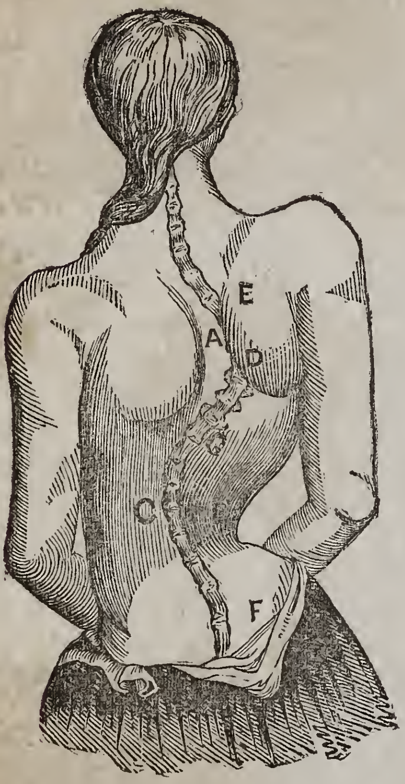
We have not given a concise history of the effects of the machine in each case mentioned, as in the few cases noticed in the last number of this Journal; because such descriptions, with very few exceptions would have been little more than mere repetitions of the triumphant action of the instrument. It may however be of some importance to notice more particularly its effects in lateral curvatures of the spine, as we have only referred to them in the last number. In the 35 cases we have had since that time, there was a great variety in the form of the curves, and a great difference in the time since they commenced as well as of their ages. The time of their existence was from 1 to 16 years, and their ages from 8 to 32 years.

The time required to straighten a spine, or make it resume its natural position depends so much upon the circumstances attending each individual case, as the form of the curve, the time of its existence, and the health of the patient, &c., as to make it necessarily very uncertain.

The first object to be obtained is to lessen the action of the tuberculated muscles on the posterior side of the curves, and increaee it in the paralyzed muscles on the other, to enable us to make the spine pass the centre and curve in the opposite direction, *under the action of the buttons.*

When this object is attained and we can make it pass the centre at each sitting, the muscles will soon maintain it in its natural position. In eight cases in which the curvatures had existed from one to two years, they passed the centre the first sitting, while it has required more than two months to effect this object in three cases of long continuance.—

The muscles are always swelled, thickened, or tuberculated on the posterior side of the curve, (as seen in the following engraving;)



and emaciated or atrophied and paralyzed on the other. In magnetising these cases the positive button is placed over the paralyzed muscles at B, while the negative button is passed over the tuberculated muscles in the right shoulder and hip, at intervals from 5 to 15 minutes; in the mean time the *negative* button is placed over the tuberculated muscles at C, while the positive button is moved over and around the left shoulder along the inside of the curve at A, under a power of the instrument that can be easily borne.—Some of these bear only a moderate, while others will bear its full power. We commence with a moderate power at each sitting and then gradually increase it to the full power that can be borne, bringing the spine up as straight as possible at the close of each sitting. In some bad cases assistance is required to raise the atrophied shoulder and keep the paralyzed muscles distended under the action of the buttons, much however will depend on the tact, perseverance and experience of the magnetiser.

In magnetising in these cases, as well as every other, the passes with the buttons should be downwards, or in a direction from the head to the feet, and this is a rule that should not be departed from, and to avoid mistakes in the use of the different buttons, magnetisers should attain a habit of taking the negative button in the right hand, and the positive in the left.

Classification of Diseases.—The magnetic symptoms to which we long since directed the attention of physicians, make a natural division of disease, into four classes, viz:—

I. Acute diseases of the serous surfaces of the body, including the skin.

II. Chronic disease of the serous surfaces.

III. Acute disease of the mucous surfaces of the body, including the alimentary canal.

IV. Chronic disease of the mucous surfaces.

The action of the magnetic machine on these different surfaces, confirms the correctness of this classification, which simplifies the practice of physic and surgery in the most extraordinary manner, and elevates the study and practice of medicine from a very uncertain, and consequently ever-changing art, to the character, dignity and rank of a science.

In running the machine, an ounce or a table spoonful of sulphate of copper (blue vitriol) is put into the space in which the zinc is placed, when water is poured on it, until the space is about half full. The vitriol will be dissolved in three minutes, when the zinc is placed in the solution in a position in which it does not touch anything but the cross piece which suspends it in the solution. The wires are then connected with the battery, machine and buttons, in the manner seen in the figure. The arm of the armature is then pushed slightly with the finger, so as to turn it in a direction from east to west, or in the apparent course of the sun, when it moves with great rapidity and the process of magnetising is commenced. As soon as we are through with the operation, the zinc is raised out of the solution and placed on the projections, attached to the different surfaces of copper, to prevent the further action of the solution upon the zinc. The solution does not act on the copper surface, and may therefore remain in it, or it may be poured into a phial or bottle and used many times, or until it becomes too weak to make the machine run well, when a little more blue vitriol may be added or a new solution made as before.

Depositions accumulate constantly upon the zinc, and sometimes to such an extent as to prevent the solution from acting upon it, when it must be washed off, and again placed in the solution, and the armature started as before.

The silver conductors of the forces to the armature, sometimes press too hard upon it, and at other times not so hard as it should do to make it run very fast or at its greatest speed. A very little attention to these conductors, and to keeping the zinc clean, will enable any person to run the machine in the best manner.

The power of the instrument is regulated by moving the piston in the cylinder. It increases from its minimum to its maximum, with the distance of the piston in the cylinder.

Animal and Vegetable Electricity.

Electricity the principal agent of animal life—of the vegetable life and growth—its action a direct stimulus—deficiency of its density or elasticity subversive of animal health, and induces diseases of debility—intense and long continued heat reduces its density or elasticity.

T. GALE, M. D., *Troy, N. Y.* 1802.

The electrical effluvia is far more subtile than air, is diffused through all space, surrounds the earth, and pervades every part of it; and such is the extreme fineness, velocity and expansiveness of this active principle, that all other matter seems to be only the body, and this the soul of the universe. This element exists in all places and in all bodies; and its action is sufficient not only to be (under the First Cause) the secondary cause of motion, but to produce and support life throughout all nature, as well in animals as vegetables. Now as the heat of every animal is the engine which circulates the blood through the whole body; so the sun, as the heat of the world, circulates or rarifies, condenses, vibrates, stimulates, and by continually changing the state and density of this elementary fire, not only gives motion and gravitation to surrounding worlds, but doth, on principles occult, impart life, vigour and growth to all animals and vegetables. It is a species of itself, and totally distinct from all other bodies.

This elementary fire not only exists in animal bodies on an equilibrium with those substances with which they are constantly connected, but the common air, especially when cool, imbibes a large proportion of this elastic fire. The lungs inspire this air, the fire mingled with it is dispersed through the pulmonary vessels into the blood: the whole mass of fluids are, in a degree, fermented and enlivened, and the vessels being at the same time more filled and distended, their tone is quickened, and the circulation accelerated; all the animal functions are, in part, put in, and preserved in motion, and the whole system is invigorated by this single agent.

If it is granted, that totally non-conductors become such by their imbibing, in some fixed form, a large quantity of this elementary fire, which it is supposed so far constitutes these bodies, that they are incapable of conveying an electric shock, then it will follow that cold air, which any one may easily know is a non-conductor, imbibes, as was before suggested, an immense quantity of this electrical fluid. The consequence then is, that the lungs serve as an electrical machine to all animals, keeping up a constant insolation, by which the system is invigorated, as was before described; this insolation is subject to continual waste, partly by perspiration, partly by internal heat which subdues its elasticity, and partly by those less electrified bodies with which they are necessarily connected.

These operations may be called natural insolation; but as I am hereafter to describe the effect of the artificial insolation, the peculiar effects of the natural will be rendered more obvious and certain.

Electric fire promotes the vegetable life, &c.

That this effluvia promotes the vegetable life and growth will not be questioned by those who are made to believe that it produceth that effect on the animal. The most that hath been said of its effects on the animal, will apply to the vegetable, except the action of the lungs, and by their action, a higher life obtains a higher and greater supply as is necessary for its support. But a single experiment will put it beyond all doubt, that what I have ventured to call a natural insolation, doth exist, and produceth the described effects, and this will appear by adding a little of the artificial thereto, which may be done thus: Prepare, at the proper season, a box of earth sufficiently moist, place it on an insolating stool or stand, sow in it lettuce seed: at the same time sow the same kind of seed in a garden bed; this being done, immediately electrify the box of earth on the stool, and keep it continually insolated, and it will bring the lettuce to perfection in one half the time of the former. This circumstance alone is sufficient, in my opinion, to put the matter beyond all doubt, that this elementary fire is the principal agent in promoting the growth and life of vegetables.

And it will be shewn, in its proper place, that the artificial insolation of the human body is as conspicuous an evidence of the same element being the main cause of life, motion and vigor in the animal creation.

The action a direct stimulus.

That this elementary fire, electricity, or by whatever name it is distinguished, is a stimulus, is obvious from all that hath been observed of its efects on animal and vegetable life. The fluids of animals and vegetables contain more, in proportion to their bulk, of this elementary fire, than the solids of either; and it is the peculiar propensity of this effluvia, to put in agitation any bodies capable of moving or of being acted upon by this agent. Thus the heart of every animal gives the first motion to the blood; this perpetuated by the dilation and contraction of the arteries, at the same time each particle of the fluids has attached to it a globular atmosphere; this atmosphere buoys up, enlivens and facilitates the flow of blood thro' every part of the system; and being contained chiefly in the fluids, doth, in some degree, fill and distend the vessels, and thus excite their action. It is my opinion that could this element be extracted from an animal or vegetable, there would be an instantaneous decay, which would soon terminate in the death of either.

In supporting the diminished life of the vegetable, a diminished action is allotted to this effluvia; its globular atmospheres always tend to propel, buoy up and diffuse to every the most extreme part of every flower and branch of the spreading tree: And it is on this principle only we can account for, the juices ascending and diffusing themselves throughout the vegetable growth.

Deficiency[*] of ethereal fire subversive of health.

Life and health being so much suspended on a full supply of this quickening principle, it follows that any deficiency thereof must tend directly to diminish life and health either in the animal or vegetable creation; as it respects the animal life, the deficiency is in the air, the lungs are not sufficiently vitrated; as it respects the vegetable, the soil is deficient in containing it.

Deficiency of ethereal fire causes diseases of debility.

A continued deficiency of existing powers, tend to induce diseases of debility, and inasmuch as they arise from deficiency of stimulus, are denominated direct, or diseases of direct debility; as this respects the animal life, the remedy is the artificial insolation, opium-brandy, and the more durable stimulus of diets &c. As it respects the vegetable life, the remedy is water, and such manure as contain, a greater quantity of this elementary fire.—It was contended before that there is a vast disproportion in the quantity contained in solids, (metallic substance excepted) compared with that which is contained in fluids; hence there is not only a deficiency of this element in the circumambient air, by reason of heat; but through the inability of the soil to contain this element, there is also a deficiency—dry loam, sand, &c., contain but a scanty portion of this elementary fire.

There is reason to believe that the plaster of Paris is highly impregnanted with this fire, for it is a non-conductor, as also lime; but this is said to be imparted by culinary fire, in burning the stone; after the same manner it is imparted into the ashes of wood, which renders them so valuable a manure. Some suppose it is imparted into iron, to render it steel; and is contained in great quantities in a fluid form, as in spirits of distillation.

Intense heat causes a deficiency of this quickening effluvia.

Notwithstanding what hath been said above by imparting elementary fire by the culinary, which is but a different modification of the same element: yet the instant these bodies, or others similar, undergo this heat, they appear to be divested of that which is peculiar to them in their cool state: glass, in particular, when heat to a certain degree, will receive and convey the electric shock as freely as brass or steel; but as soon as it is cool again, will make the same resistance as before: this resistance is supposed to be made by the vast quantity imparted into the substance of the glass in the furnace; but however that may be, it is certain that whenever it is again rarified by heat, the resistance is lost, the imparted element subsides, and the properties of the glass appear to be essentially changed. However, as to the truth of this element's being imparted in any form, I am not anxious to maintain it; it is not much to my purpose, it is rather the opinion of others: but it is to my present purpose to shew, that the rarification of heat, causes a deficiency of this electric effluvia, which is so necessary to life and health. It being so far evident, that some bodies contain so much of this ethereal element, as their natural aquntity, in a cool state, that they resist the approach of an additional quantity, made by art, as glass, bees-wax, tallow and some other bodies; yet when these bodies are rarified by heat, they become divested of this natural quantity, or at least of its elasticity, and will as freely receive an additional quantity as iron or water, which quantity is supplied to them by the artificial machinery. If we apply these reasonings to the element of air, which in a cold state is as much a non-conductor as glass, bees-wax, &c, and undoubtedly from the same cause, viz:—its own excessive natural quantity; it will follow, that heat, in proportion to its degree, divests common air of this ethereal element, or of its elasticity; the consequence is, that in proportion as the air is divested of this essential property, the animal life must suffer in respiration; the lungs receive and supply less of this animating and quickening power, and the animal functions grow more and more languid, and impaired; and if continued long, must terminate in diseases of debility.—It would be superfluous for me to observe, that diseases of debility are peculiarly frequent in hot countries and climates; I mean rather to trace the cause to its source; and if it should appear to be a deficient supplyof this ethereal fire, I shall lay a foundation for what I shall hereafter recommend in diseases of debility as an excellent remedy, viz:—the artificial insolation, with some light shocks to accompany the insolation.

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[*] I must own, that I am staggered in determining whether this deficiency, as I call it, doth consist in the reduction of the elasticity of ethereal fire only, or whether, by some means not yet understood, elementary fire is absolutely dissipated and diminished in in quantity—its elasticity must be reduced to promote the vegetable growth, for the vegetable life subsides, in the winter season. When this element becomes very dense and elastic, their fluids cannot flow in consequence of this resistance to motion. I am most apt to think that the reduction of elasticity is a diminution of the existing quantity of ethereal fire, but perhaps some future experiment may convince me of a mistake—This element assumes such a variety of appearances, and produces effects as various and as unaccountable as the phenomena of its appearances, that perhaps it will be the business of ages fully to comprehend them all. But one thing I am certain of, and that is, as this elasticity in air subsides, animal life languishes; and that the artificial insolation directly invigorates the system.

The relative merits of Mercury and Iodine in the treatment of Syphilis.

Dr. Hocken, at the close of a lengthened and elaborate essay, arrives at the following conclusion on this subject:—

"That a modified use of mercury is adapted to nearly all the forms, but especially the indurated, of primary syphilis:—that in constitutional syphilis a modified use of mercury is almost a *sine qua non* in the great majority of secondary symptoms, but is either hurtful or useless in the tertiary;—that iodine is inert in almost all the symptoms of primary syphilis with the exception of some forms of phagedena, attended with great debility and derangement of the health;—that in constitutional syphilis it is less valuable a remedy in the majority of secondary symptoms than mercury, with the exception of some severe cases of pustular eruption, phagedemic throat, rupia, and secondary ulcerations, of bad character, all of them marked by a cachectic and debilitated constitution; whilst in tertiary symptoms iodine is far more valuable than mercury, and its effects more decided and certain than in any other set of symptoms:—that mercury and iodine are most advantageously combined in cases presenting both secondary and tertiary symptoms:—that many forms of mercury having local or constitutional actions, are applicable to the various symptoms of syphilis, but that the mildest constitutional effect, capable of overcoming the disease, is always to be preferred:—that the only form of iodine safely applicable to the treatment of syphilis is the iodide of potassium, which should never be carried beyond moderate doses:—hence, however valuable the iodide of potassium may be in some forms of syphilis, it cannot be substituted with advantage for mercury in the great majority." —*Edinburgh Journal.*

On the treatment of obstinate cases of Stricture of the Urethra.

Professor Syme read a paper on the treatment of stricture of the urethra, in cases where the ordinary means prove inefficient. He described the characters of the disease when it possesses an obstinate disposition, and endeavored to show that, in such instances, an attempt to effect dilatation by bougies was no less dangerous than useless. Division of the stricture, either by subcutaneous puncture when it is seated in the pendulous part of the canal, or by free incision upon a grooved director, when it lies behind the scrotum, was recommended, as having proved completely successful in cases that had resisted every form of dilatation.—*Cormack's Journal of Medical Science.*

Effects of Tartar Emetic on Infants.

Mr. Noble, whose experience on this point corresponds with that of the late Mr. Goodlad of Manchester, remarks that tartar emetic acts occasionally as a poison, even *in small doses*, in the cases of young children. He gives some illustrations of his opinion, and points out the necessity of great caution in the administration of this remedy.—*Provincial Journal.*

Academie de Medicine, Paris.

M. MALGAIGNE ON DORSAL MYOTOMY.

Lateral Curvatures of the Spine.—M. Malgaigne read a memoir on dorsal myotomy, invented a few years ago by M. Guerin.—M. Malgaigne's memoir was divided into two parts. The first contained an analysis of twenty-four of the cases treated by M. Guerin, between 1839 and 1843, the remainder was devoted to a critical examination of the operation and its results.

During the period mentioned, 57 cases were thus treated at the Hopital des Enfans, of whom it is stated that 24 were completely cured, and 28 much improved, 4 remaining without amelioration, and 1 dying. M. Malgaigne asserts that he has been able to obtain information respecting 24 of these patients, either by personal inquiry and examination, or from authentic data. He adds, that twenty of these patients had undergone section of the dorsal muscles from one to nine times. They had remained at the hospital from two to eleven months, the treatment however, having often been continued at their own residence. M. Malgaigne states that he has not seen one complete cure, and that even the instances of amelioration are problematical. From his examination of the patients, he even doubts whether the retracted muscles were really divided, and whether the operation is not one which addresses itself hazardously to overcome imaginary evils. The greatest difficulty in orthopedy is not to raise the vertebral column, but to give it the solidity which it wants by reinforcing its ligaments and its muscles. The weakness of these two classes of organs is so marked, so constant, in lateral deviations of the spine, that they may be considered as one oftheir principal causes. Six years ago, having to judge between different orthopedic systems, he condemned all apparatus for extension as only tending to increase the weakness of the ligaments and muscles.—Dorsal myotomy was not then invented, but the principles by which he was then guided apply equally to the new operation. It was a bad plan to divide a muscle in order to strengthen it.

A committee was named by the academy to report on M. Malgaigne's communication, the nomination of which gave rise to a very stormy debate, M. Guerin having refused M. Velpau as one of the committee. The academy, however, persisted in retaining him.

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Academy des Science, Paris.

Structure and diseases of the Eustachian Tube.—In a paper on the general and pathological anatomy and on the diseases of the Eustachian tube, M. Bonnafort states that he has found with the microscope numerous mucous follicles on the mucous membrane of the Eustachian tube, but none on that of the cavity of the tympanum. He believes that surdity is more frequently caused by thickening of the mucous surface, and subsequently stricture of the passage, than by mucous obstruction. Consequently, instead of merely injecting air into the Eustachian tube, as most surgeons do, he dilates it as he would the urethra, with small gum elastic bougies, which he introduces into the tube by means of a small silver sound. He has not yet met with a case of stricture which has necessitated cauterisation.

* * *

Copaiva Sugar-plums.

Take of balsam of copaiva, 460 grains; calcined magnesia, 18 grains. Intimately mix these ingredients, and in about twenty-four hours the mass may be divided into seventy-two parts, which are to be rolled out between the fingers. These are to be covered with gum and sugar, prepared in the following manner:—

First. A solution of gum arabic, containing a third of its weight of gum.

Second. White sugar, in powder.

Put the copaiva pills into a tinned basin, of an hemispherical form; pour in a little of the solution of gum, to moisten them; then add some of the powdered sugar, and turn the basin so as to get the pills covered all over; repeat this operation three times and afterwards place the sugar-plums on a horse-hair sive, in a stove heated to 77° Fahrenheit. The temperature of the basin, during the covering of the pills, should not be above 60° Fahrenheit.—*Pharmaceutical Journal.*

* * *

Original seat of Cancer of the Eyelids.

Most frequently the original seat is in the palpebral conjunctiva, and from thence it attacks the skin, on the other side of the palpebral edge. Sometimes the skin is affected first. The affection may be considered as a glandular schirrhus when it commences in the lachrymal caruncle. The frequency of cancerous ulcerations at the internal angle of the eye is very remarkable. This fact is explained by the use of this angle, which serves as a receptacle for the different secretions of the conjunctiva and of the glands of the lids.—*Northern Journal of Medicine.*

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FALLACIES OF THE FACULTY.

Hereditary Predisposition—Apoplexy-Hæmorrhages—Heart Disease—Pulmonary Consumption—Glandular Complaints—Consumptive diseases of Joints.

By Dr. Dickson.

Gentlemen :

We have hitherto derived our illustrations of the unity and *intermittent* nature of disease, almost entirely from such forms of disorder, as, by the profession of the present day, are termed FUNCTIONAL ; that is to say, such as are uncomplicated with organic decomposition or any marked tendency thereto. Now, in the commencement, all complaints are simply functional. I do not of course include those organic diseases that have been the immediate effect of mechanical or other direct injury—such as the passing of a small sword through the lungs or liver. I speak of disease in the *medical* acceptation of that term—disease in which one or more constitutional paroyxsms occur before organic change becomes developed. Enquire the *Sequelæ* of those agues for which the usual *routine* of medical treatment may have proved unavailing. Do not these comprise every structural change to which nosologists have given a name?—hæmorrhage, or rupture of blood-vessels wherever situated,—diseased lungs by whatever termed ; with all the various visceral alterations which have obtained designations more or less expressive of the localities in which they become known to us—the enlarged, softened, or otherwise disorganised heart, liver, spleen and joint; the indurations and other changes which take place in the several glands of the body, whether called scrofulous or consumptive, cancerous or scirrhous. When patients thus afflicted complain of the *ague-fits*, from which they suffer, their medical attendants too often point to the local disease as the cause, when in reality, such local disease has been a mere feature or effect of repeated paroxysms of this kind. Even John Hunter, with all his acuteness, fell into this error, when he said, "We have ague, too, *from* many diseases of parts, more especially of the liver, as also the spleen, and *from* induration of the mesenteric glands." It is only of late years that the better informed members of the profession have begun to suspect that these structural alterations, instead of being the causes of the "constitutional disturbance," are the results. But this phrase, in most instances, they use without any very definite idea of its meaning—and when questioned in regard to it, they either confuse the matter with the mixed-up jargon of incompatible theories, or frankly confess that they entertain notions which they feel themselves unable by any form of speech to impart to others. Gentlemen, "constitutional disturbance," when analysed, will be found to be neither more nor less than an *excess* or *diminution* of the healthy temperature and motions of various parts of the body,—amounting, when the disease is *recent* (or "acute") to the bolder features of INTERMITTENT FEVER—and in cases of longer standing (or "chronic") coming at last to the more subdued symptoms of that universal disease. Betwixt these two extremes you have every kind of intermediate shade,—sometimes depends upon duration, sometimes upon individual constitution.

Every child of Adam comes into the world with some weak point, and this weak point necessarily gives the subject of it a *predisposition* to disease of one locality or tissue of the frame rather than another; but many persons, from accidental causes, have also their weak points. Of this kind are such parts of the body, as after having been externally injured get so well, that while you continue in health you suffer no inconvenience; but as old age steals upon you, or when your general health gives way, you are reminded by certain feelings of weakness in the parts injured, of the accidents that have formerly happened to you, and that to keep the affected parts in tolerable strength you must not play tricks with your constitution. Individuals so situated can predict every change of weather; they are living barometers, and can tell you what kind of a day it shall be, before they rise in the morning They obtain their knowledge of this from the experience of their feelings in their old wounds and fractures. Now, Gentlemen, this is what you ought to be prepared to expect:—the atoms of *repaired* parts must always have a weaker attraction to each other, than the atoms of the other parts of the frame,—and they must, therefore, in the very nature of things, be more liable to be influenced by external agency—by every thing, in a word, that has the power to put matter in *motion*. Whatever, under ordinary circumstances, shall slightly shake or effect the whole body, must, under the same circumstances, be a subject of serious import to its weaker parts; and this argument also applies with equal force to the atoms of those parts of individual bodies, which, by hereditary predisposition, manifest a similar weakness in the attractive power of their atoms to each other. As the child is but an extension of the living principle of the parents, its frame must naturally, to a certain degree, partake of the firmness and faults which characterised its progenitors, whether mental or corporeal—resembling them, not only in external features, but copying them even in their inward configuration. Such similitude we see extending to the minutest parts, whether such parts be fully developed, or defectively, or even *superfluously* constructed. As instances of these last, I may mention, that I have known particular families, where the frequent repetition of six fingers to the hand has taken place in successive generations, and others, where the same members have been as hereditarily reduced beneath the correct human standard. Then in regard to hereditary *mental* resemblances, you will see children, whose father died before they were born, manifesting the same facility or stubbornness of temper, the same disposition to moroseness or jocularity, which characterised the author of their being. Friends and relatives will sometimes hold up their hands with astonishment at this mental likeness of children to their parents; "he is just his father over again," is a common and correct remark of the least observant. In the doctrine of *hereditary predisposition*, then, the profession and the public, I believe, are equally united in opinion;—but whether they be so or not, is of very little import while you have eyes to look around you, and can judge for yourselves. I must, however, tell you, that in cases of hereditary predisposition, much will depend upon circumstances, whether or not such predisposition be actually and visibly developed in the individual members composing a given family. A person, for example, in whose family the heart or lungs is the weak point—by guarding himself against too rapid changes of temperature, and availing himself of a fortunate position in society as to pecuniary and other means, may so control numerous exciting elements of disease, as to pass through life happy, and comparatively healthy:—while his less fortunate brother, worn down by an accumulated weight of domestic and other trouble, shall not only suffer in his general health, but shall as surely have the weak point of his family's constitution brought out in his individual person. We are all, then, more or less, the "sport of circumstances."

Among the various diseases, which, from their frequency, we justly recognise as the most prominent and important that affect the inhabitants of these islands, I may mention, Spitting of Blood, Consumption, and Glandular disorders. The rapid transitions of temperature, so characteristic of this climate certainly predispose us to these complaints:—for while in the warmer countries of the East, Dysentery and Abscess of the Liver carry off the greater number of the various races that compose the population,—the natives of India, who have died on our shores, have generally fallen victims to Glandular and Chest Disease. Even the monkey acknowledges the baneful effects of such rapid thermal transitions on his respiratory organs. More than one half of this class of animals that come to England, die of consumption of the lungs. Diseases of the chest and glands certainly become hereditary; but under that head, you may include a great many others,—epilepsy, apoplexy, palsy, mania,—and perhaps, every purely constitutional complaint, which has obtained a name. Could the breeding of mankind be as closely watched and as easily controlled as the breeding of our domestic animals, incalculable advantages, moral, as well as physical, might be the effect of judiciously crossing particular races with each other The tendency to the particular passions and diseases, which characterise nations and families, might, in this manner, be as certainly diminished, as the beauty of the face and form might be exalted in its standard:—for both depend greatly upon hereditary configuration, or upon the particular atomic association of certain parts of the body, which you find prevailing in families—other external modifying circumstances being, at the same time, kept in view,—such as climate, temperature, social and political relationship,

&c. But be this as it may, whatever will agitate the whole frame of an individual,—whatever will in any manner touch the stability and strength of his corporeal *Totality*, must to a certainty with much more severity affect the weakest point of his body, whatever that point be. This doctrine I mean shortly to apply to.

APOPLEXY.

The great System termed the Human Economy is made up of numerous lesser systems, each having a fabric or material peculiar to itself. By anatomists, these various fabrics are termed the Tissues. Thus we have the Osseous or Bony tissue of the skeleton, the Cartilaginous and Ligamentous tissues of the joints; the Glandular tissue different in different systems of glands, but without which there could be no *secretion*—no saliva—no bile—no perspiration, and the like;—the Muscular and Tendinous tissues, so necessary to locomotion;—the Nervous tissue—of two kinds,—one to convey impressions *from* the Brain to all parts of the body, the other to convey impressions back *to* the Brain. Then there is the Vascular tissue, partly muscular in is nature, comprising the heart and its infinity of blood-vessels;—to say nothing of the Cellular tissue, which, like a web or net, invests and insinuates itself into the whole tissues of the body. The tissue of the lungs and that of the intestinal tube are principally compounded of the others; so, also, are the lining membranes of the various cavities and canals that convey the secretions—*mucous* membranes, as they are termed—for the membranes that line shut cavities, such as the cavities of the chest and abdomen, are distinguished by the term *serous.* The Cutaneous, or Skin-tissue, performs the part of an outward envelope to all. Now, as there is seldom such a thing to be seen as a man or woman, whose body is so perfectly made in its outward form as to stand the scrutiny of a sculptor or painter in all its parts,—so, in the internal configuration of all bodies, will there be parts, as we have already seen, inferior to other parts in strength and so forth. Some tissue, or portion of a tissue, may be at fault. Well, then, suppose the fabric of the *Blood-vessels* of a part to be the least strongly constructed tissue of a given individual, can you doubt that any thing which might injure that individual's health generally, would among other phenomena, develope such original weakness in that part of his Vascular tissue, even where it had not been before suspected? Suppose you were to starve a person slowly, or to bleed him day by day, would you not in that case be sure to break down his whole health? Would you not also weaken the coats of the blood-vessels generally by what so palpably weakened every tissue of the frame? Now, suppose one or more vessels of the Brain to be the least strongly constructed parts of an individual body, would not such starvation or such blood-letting be sure to produce so great a weakness of the coats of these vessels as to give them a tendency to rupture, the consequence of which would be effusion of blood upon the brain,—in other words, *Apoplexy*? I think you must even in theory come to that conclusion. But, Gentlemen, I will give you a fact, or rather a host of facts which you will be glad to take in change for a thousand theories. The inmates of the Penitentiary Prison, by very gross mismanagement, were put upon a diet from which animal food was almost entirely excluded—they were all but starved—"An ox's head weighing eight pounds was made into soup for one hundred people, which allows one ounce and a quarter of meat to each person. After they had been living on this food for some time, they lost their colour, flesh, and strength, and could not do as much work as formerly." The affections which came on during this faded, wasted, weakened state of body, were headache, vertigo, delirium, convulsions, Apoplexy." Remember, Gentlemen, this is not my statement—no distortion or corruption of words made by me as a party advocate. It is *literatim et verbatim* extracted from the official report of Dr. Latham, the physician who was deputed by Government to inquire into the cause of the great mortality in the Penitentiary. If you place any confidence in its accuracy,—If you believe Dr. Latham to be an honest man, there is only one conclusion you can come to, which is this, that the apothecary practice of starving and bleeding to prevent or cure Apoplexy is the most certain mode of producing this disease in persons pre-disposed to it, and of confirming it in such as have already shown the Apopletic symptoms. Gentlemen, you seem startled at this, and no wonder—for some of you have doubtless lost relatives by the practice. How then, you have a right to demand, must apoplexy be treated? That apoplexy, like every other disease, is a development of general constitutional disturbance,—that it is a remittent disease, and in many instances curable by the remedies so generally influential in the treatment of intermittent fever, according to the various stages of that complaint. I could prove to you by a multitude of evidence.—But there is a case in the *Medical Gazette*, which bears so strongly on this very point, that I will give it to you at length. It is from the pen of Dr. Graves of Dublin, and the subject of it was a gentleman living in the neighbourhood of Donybrook. This gentleman, Dr. Graves tells us, "had slept well till four o'clock in the morning, when he was awakened by a general feeling of malaise, shortly after which he complained of *chilliness*, some nausea, and headache.—[Here then was the cold stage.] After these symptoms had continued about an hour, his skin became extremely *hot*, the pain of the head intense, and drowsiness was complained of, which soon ended in perfect coma, with deep snoring and insensibility;—in fact he appeared to be laboring under a violent apopletic fit. He *seemed* to derive much advantage from bleeding and other remedies, and to my surprise was perfectly well when I visited him in the evening. The day but one after, at the very *same hour*, the very same symptoms returned and were removed by the very same remedies. [So at least the doctor thought.] I must confess," he continues, "that I could not explain in a satisfactory manner the perfect freedom from all cerebral and paralytic symptoms after two such violent attacks of APOPLEXY. But when a *third* attack came on, I then saw it was a case of the TERTIANA SOPOROSA of nosologists, [what jargon !] and I *prevented the return* of the fit by the exhibition of *Quinine*." The quinine, you see, proved at once an efficient preventive of the returning fits, while repeated blood-letting, whatever might have been its effect in shortening them, had not the slightest influence in that more salutary respect. But when Dr. Graves supposed that his bleedings did actually shorten the duration of the fits, may he not have been deceived by the approaching *remission* of the disease,—may he not have mistaken this natural phenomenon of all disorder for the effect of his remedies ? However that be, I can say this much for myself, that since I gave up the practice of bleeding in apoplexy, I have found that disease in the young as generally curable as any other, and in the old much less fatal than when treated by the lancet. Mr. Smith of Cheshunt lately informed me that he had cured several cases of apoplexy simply by dashing cold water over the patient's head, without drawing a drop of blood. Mr. Walter, a surgeon of Dover, has successfully treated apoplexy by the same practice. "The application of your theory," he writes to me, "has lately saved me from bleeding in *two* cases of APOPLEXY, both of which did well without it." Now apoplexy as it happens, is the great stumbling-block of the vulgar. How mad Dr. Dickson must be not to bleed in apoplexy !—that is the language of every blockhead who, knowing nothing of the subject but what he has picked up "in conversation or in his schools," very wisely fancies himself an oracle. But what say the oracles of the schools—what say the men who for years and years have been preaching up blood-letting as an infallible remedy for all diseases ! Dr. Clutterbuck, as you all know, throughout a long life, has advocated that kind of practice ; what does Dr. Clutterbuck say of its success, in cases of apoplexy ? I almost fear you will not believe I quote him rightly—but his name assuredly stands as the author of the article APOPLEXY in the *Ccylopedia of Medicine*, from which I quote—and this is what he says under that head and upon that subject :—"As mere matter of experience there is reason to believe that blood-letting does much less good, and the omission of it less injury, than is generally supposed." Only imagine my feelings when, in the course of my desultory reading, I first stumbled upon this passage. Such a confession from such a quarter ! Gentlemen, I laughed most heartily, and made an extract on the instant, keeping to the exact words which I have now given you for your edification.

That you may cure the disposition to

RUPTURED BLOOD–VESSEL OR HEMORRHAGE

in other parts of the body, as well as in the brain, by cold affusion, I could give you an infinity of proofs. What is the old woman's practice in bleeding from the nose ? To put a cold key down your back, and thus by the suddenness of the shock change in a moment the whole corporeal temperature. The principle is the same in both cases, and the good effects of that measure ought long ago to have suggested to medical practitioners a better practice in apoplexy and other hemorrhages than is at present the fashion with fashionable doctors. COLD WATER, Gentlemen, HAS MANY VIRTUES, BUT A GREAT DEAL DEPENDS ON THE MODE OF APPLICATION.*—

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* Much is said now-a days of HYDROPATHY, which whether a novelty or not, ought rather to be called HYDRO-BATH-Y. When the words I have placed in capitals in the text were first printed; Hydropathy, or the Cold-water Cure, was not even known by name in England. Hydropathy on a right principle is only a *fragmental* part of chrono-thermal means. Practised as it is by Priessnitz and his followers, on the old erroneous *humor*-al doctrine, it must occasionally injure those who submit to it. Of this I lately had an instance in the person of a female patient who had partially lost the use of her right arm and leg. The case was of a paralytic kind, and among other means for its relief, the patient had tried a hydropathic establishment, which she declares, not only made her worse, but "all but killed her." Under a chrono-thermal course, I am happy to say, she has very nearly recovered the original power of the affected muscles. This patient was recommended to me by Major Eyles, Coleshill House, Amersham.

The suddeness of the dash is the chief thing to be attended to in cases of this nature.—So much then for the proper treatment of the patient during the fit of bleeding; but what is to be done to prevent its return? English practitioners almost to a man bleed and purge you. The following case may open their eyes; and as it is not taken from my own experience, but from a German Medical Journal of repute, it may perhaps carry more weight with it on that account. "A strong man, aged 27, suffered on alternate days from very violent bleeding at the nose, which continued from four to six hours, and could neither be stopped nor diminished by the usual styptics, nor by any of the other means commonly employed in similiar cases. Taking into account the remarkable *periodicity* of the bleeding, the treatment was changed for a large dose of sulphate of QUININE with sulphuric acid. During the twenty-one days following, the bleeding recurred but twice, and was then readily stopped. The patient subsequently continued quite well."—[*Med. Zeitung, No.* 33, 1836.]

In the case of a young lady afflicted with periodical *Vomiting* of blood, for which she had been repeatedly bled without the smallest advantage,—or rather to the great injury of her general health,—I effected a rapid cure with a combination of Quinine and Alum. The same disease I have again and again cured by Arsenic, Opium and Prussic Acid. A Captain of the royal navy, whom I lately attended along with Mr. Henry Smith, of Cheshunt, for vomiting of blood, got well by small doses of copper.

You will now, I have no doubt, be prepared to question the propriety of the usual murderous treatment adopted for *Spitting* of blood—Pulmonary Apoplexy, as it has been called. Is not the lancet in almost every such case, the first thing in requisition, and death the almost as invariable result of the measure? What say the older authors upon this subject? Listen to Heberden, a physician who, for upwards of thirty years, had the highest and most extensive practice in London. "It seems probable," writes this veteran in medicine, "from all the experience I have had of such cases, that where the hæmorrhage proceeds from the breach of some *large* vein or artery, *there* the opening of a vein will *not* stop the efflux of blood, and it will stop *without the help of the lancet*, when it proceeds from a small one. In the former case, bleeding does no good; and in the latter, by an unnecessary waste of the patient's strength, it will *do harm*. But if the opening of a vein be intended to stop a hæmorrhage, by deprivation or revulsion, may it not be questioned whether this doctrine be so clearly established, as to remove all fears of hurting a person who has already lost too much blood, by a practice attended by the certain loss of more?" With which reasoning, I hope you are all, by this time prepared to agree. But men who know nothing of the economy of the human system, will sometimes dispute this matter with you, by saying, that their patients make blood so fast that they must periodically bleed them, to keep down the disposition to hæmorrhage. Gentlemen, these practitioners deceive themselves; they are deluded into this false and fatal practice by the returning *febrile* fit—a fit that will recur and re-recur at more or less regular periods, while there are blood and life in the body; and the more frequent the bleeding practised in the case, the more frequent will this febrile fit come on, and with it, the very hemorrhage which it is the object of their solicitude to prevent. Does it not stand to reason, that the more you debilitate the *whole body*, the more certainly must you weaken at the same time the already too WEAK TISSUE of the VASCULAR COATS, that tissue whose original weakness constitutes the tendency to hemorrhage! Instead of being the consequence of any constitutional plenitude of the blood itself, spitting of Blood is only a natural effect of real weakness in the coats of the containing vessels of the lungs; so that not only is the theory of making too much blood absolute nonsense, but the measures which medical men have for centuries been putting in force, for the cure of hemorrhagic disease, have been one and all as fatal in their tendency, as the theory that led to them was in principle false. Look at the pale and exsanguined countenances of the unfortunate individuals, who, whether for spitting of blood, apoplexy, or other hæmorrhages, have been subjected to such cruel discipline, and tell me, if these poor creatures make too much blood?—only place your finger on the artery of the wrist, and you may feel it jerking, and compressible, like that of a female who has suffered from repeated floodings. Even during the febrile paroxysm, you may see by the circumscribed flush of the face, that this patient is actually dying of hectic or inanition. What fatal mistakes have not originated in the notion of making too much blood!—To bleed in the case of a ruptured blood-vessel, then, is positive madness. If you open a vein in the arm of any man, whether healthy or the reverse, and let blood, will the opening of another vein stop the flow of blood from the vein first opened? So far from that, both veins will go on bleeding till the patient either faint or die!—Should not this fact have long ago opened the eyes of the profession to the fallacy of their practice? Gentlemen, how can you doubt, for a moment, that the coats of the blood-vessels, like every other tissue of the body, *must be* equally implicated in the *general debility* that cannot fail to be produced by whatever abstracts *from,* or prevents the entrance *of,* the material necessary to the healthy organization of every part of the human frame? To bleed or starve a person having a hereditary predisposition to spitting of blood or apoplexy, is the most certain method to develop these diseases in their worst forms!—Yet this is the daily practice of the most eminent physicians! one among many proofs, that in the medical profession, eminence is less frequently attained by *successful results* in practice, than by the dexterous employment of all those mean arts and petty intrigues with which mediocre but unscrupulous minds too often beat men of genius in the game of life. So far as practice is concerned, the eminent physician generally confines himself to the fashion of the day—the more especially, if that fashion be profitable to the apothecary; for in such case he is sure to become the fortunate *puppet* of those whose bread depends, not so much upon the cures they shall effect, as the quantity of physic they shall manage to sell! What a happy nation of fools must that be, which supposes that any class of mankind will put the interests of the public in competition with their own. Benighted and misguided people! you call upon men to relieve you from your sufferings, while you hold out to them the most powerful of temptations to keep you on your sick-beds! You pay for physic, what you deny to talent—for a *long illness,* what you refuse to a speedy recovery! Do you think medical men angels, that you thus tamper with their integrity? Your very mode of remunerating them forces them to be corrupt—and that too, at a moment when their numbers are so great, that could even one half of them live honestly, the other half starve! Hear Mr. Abernethy on this subject:—"There has been a great increase of medical men, it is true, of late years; but upon my life, *diseases have increased in proportion;*—that is a great comfort!"—To whom is it a comfort?—to the public or the profession?—When you call in the physician recommended by your apothecary, how can you be sure that he is not a confederate? or that, when the *farce* of a "Consultation" is gone through, you are not the dupes of a petty intrigue to pick your pockets? Uncharitable man! some of you may possibly say, how can you thus malign the members of your own profession?—Gentlemen, when so many of *my* profession, and those not always of the lowest class, descend to practices which degrade medicine into the vilest of trades; when, like the Thugs of India, numbers of them silently and secretly enter into systematic collusions and conspiracies for the purpose of inveigling and plundering under friendship's garb, the unfortunate victims who, too confidingly repose on their honour and integrity; when the editors of the Medical Journals even are forced to notice the letters they receive in their exposure,—is it not time that the too credulous public should be put upon their guard?* If any medical practitioner of your acquaintance has the hardihood to deny the existence of this terrible state of collusion now so prevalent, both in town and country, look upon that man with suspicion,—or rather set him quietly down at once in your own mind, as one of the most deeply implicated of the corruptionists. "A monarch," says Dr. Forth, "who should free his state from this pestilent set of physicians and apothecaries, and entirely interdict the practice of medicine, would deserve to be placed by the side of the most illustrious characters who have ever conferred extensive benefits on mankind. *There is scarcely a more dishonest trade imaginable than the Art of Medicine* in its present state."—[*Rhapsodien uber Medizen.*]

But to return to the subject of Ruptured Blood-vessel. You will find that in every case, except where it has been produced by mechanical or other local agency, this disease is the effect or development of general intermittent fever; the symptoms of which fever vary in their degree of severity with every case,—in one being bold and well marked, in another, so softened and subdued, as almost to escape the patient's own observation;—curable, too, like the simplest ague, by the cold dash or an emetic given during the hot fit;—and to be prevented from recurring by chrono-thermal treatment during the interval of remission. One case will yield to opium or arsenic, another to copper, quinine, or prussic acid, and some will trouble you to cure them at all—for what will agree with one constitution, may, as we have too often seen, disagree with another. I could give dozens of cases of every kind of constitutional hæmorrhage cured in this manner; but the details of one would be the details of all. Yes, Gentlemen, I repeat, by the early use of emetics, the proper application of heat and cold in the different morbid conditions of the body constituting the *febrile fit,* and by the judicious exhibition of the chrono-thermal medicines during its remission, I have successfully treated every kind of hæmorrhagic disease. The same system of treatment has enabled me effectually to cure many cases of Enlarged Veins—Varicose Veins, as they are termed—and the mention of this recalls to my recollection the case of an aged female who had a painful *varicose* ulcer—that is, a sore with blood-vessels opening into it—for which I prescribed the internal use of arsenic, with almost immediate relief to her pain, and the subsequent cure of her ulcer. From the happy result of that and other similar cases, the surgical *mechanic* may learn that there are other and better modes of treating "varicose veins," than by bandages and laced stockings. Well, then, I have said all I mean to say upon the subject of Hæmorrhage, and I have anticipated something of what naturally belongs to the treatment of Diseases of the Chest. Of these I must now speak at some length.

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* See the *London Medical and Surgical Journal* and *Lancet,* passim,—particularly the former,—for a full exposure of those nefarious practices.

It has ever been the policy of teachers and professors to affect to penetrate farther into a millstone than their pupils; and, seeing that for the most part such professors know as little of their particular subject as those they pretend to enlighten upon it, so far as their own reputation is concerned, they are doubtless right! The great millstone of the present day, is the Chest,—and Laennec's bauble, the divining rod by which our modern sages pretend to have obtained their knowledge of it. If you believe them, a hollow piece of stick they have nicknamed "the *Stethoscope*" is the greatest invention of these times! By means of it you may discover every motion and change of motion that ever took place in the organs within the cavity of the chest, and some that never could take place in them at all.

What an invaluable instrument must it be—that stethoscope! The enchanter's wand was nothing to it! Aaron's rod perhaps came the nearest to it! But, seriously speaking, just observe how gravely your hospital tyros hood-wink and hocus each other with the phrases "hypertrophy" here, and "Atrophy" there; "Caverns" in this place, and "congestions" in that—to say nothing of "rhoncus" and "rale," "egophony" and "sybilus"—and heaven knows what other sounds and signs besides—sounds and signs which, in the greater number of cases, have as much of truth and reality as the roar of the sea with which the child deludes his fancy when holding a shell to his ear!

Let me first speak to you of

Diseases of the Heart.

Do not the subject of every kind of Heart-affection tell you they are one bay better, another worse? How shall we speak of diseases of this organ?—of palpitation and temporary cessation or remission of its action?—disorders constantly misunderstood, and as constantly maltreated. Complain but of flutter or uneasiness in any part of the Chest, the stethoscope—the oracular stethoscope—is instantly produced. Astonished—in many instances terrified—the patient draws his breath convulsively—his heart beats rapidly—and the indications obtained by means of this instrument, at such a moment of doubt, anxiety, and fear, are registered and recognised as infallible. "Have we not had too much talk of Heart-Disease since the stethoscope has come so generally into vogue?" was a question asked some years ago by the late Dr. Uwins. Dr. James Johnson shall answer it; and for reasons which I shall by and bye make you acquainted with, I prefer his evidence here to that of any other physician. In one of the numbers of *The Lancet*, Dr. James Johnson is stated to have said at a Medical Society:—"It was a common error in young practitioners to consider the heart as organically diseased when its functions only were much interfered with, and *this error* has become *more general*, he was sorry to say, *since the* STETHOSCOPE *has come into use*." Dr. Johnson confines his observation to *young* practitioners—himself not coming under that head,—but I have seen men as old as he make the same mistake, and those, too, enjoying a great reputation for stethoscopic sagacity.

Patient after patient—medical as well as non-medical,—have come to me with the *fatal scroll* of the stethoscopist—there hearts palpitating, their limbs trembling, as they gazed in my face, expecting to read there nothing short of a confirmation of their death-warrants;—yet of those patients, many are now living and well, and laugh, as I hope to make you laugh, at both the instrument and its responses. How little must that man know of his duty as a physician, who would deprive a fellow-creature in distress of the balm of hope—how little can he appreciate the influence of the depressing passions on the bodily sufferings of the sick! Yet with these eyes have I seen, in the hands of the patient, the written announcements of his doom, an announcement which afterwards turned out to be utterly unprophetic and false. How unwarrantable in any case to intrust the patient with such a document.

Let the practitioner withdraw his eye, for a time, from a mere symptom; let him observe how other muscles of his patient palpitate at times, like the heart, and act, like that, convulsively—finding these symptoms to be remittent in every case; and complicated with others, all equally remittent, would he still persist in his small bleedings, his repeated leeches, his purges,—*measures of themselves* sufficient for the production of any and every degree of organic change he already fancies he has detected! Would he not rather reflect with horror on his past treatment, and endeavour, by another and a better practice, to enable his patient to escape the sudden death to which, in his imagination, he had devoted him? How many a physician, by such a prognostic, has obtained unmerited credit for foresight and sagacity, while he only taught the patient's friends to be prepared for an event, *he himself was materially contributing to hasten!* Truly, in this case at least, prophecies do tend to verify themselves!

Gentlemen, I have seen two stethoscopists examine a patient with supposed Heart-disease, and come to the most opposite conclusions,—one declaring the organ to be enlarged, the other assuming with equal confidence, that it was the reverse! The utter absurdity of attempting to distinguish, during life, one form of Heart-affection from another by any particular sign or symptom, is sufficiently proved by this one fact, that a mere functional variation of its motions will produce every symptom of a real change in the structure of the organ itself. But even could such distinction be effected to the nicety of a hair, the knowledge of it would *not* be worth a rush for any *practical purpose*—inasmuch as the remedies for every kind of chest-disease come at last to the same agency, whether that agency be directly applied to the surface of the body in the shape of cold or heat; or be externally or internally administered in the form of medicines that electrically influence the corporeal motions through the medium of the brain and nerves. By the chrono-thermal system of practice, I have successfully treated every kind of Heart-disease which ever came, or could come, under the notice of the physician—setting aside, of course, original malformation of the organ I will give you some cases in illustration:*—

A gentleman, aged 30, had been ill for a long time, particularly complaining of his heart, the action of which organ was generally below the healthy standard, and it also palpitated occasionally. So great was his mental depression, that the smallest trifle produced tears. The temperature of his body generally was below that of health, and he suffered much from coldness of feet—remissions he of course had, being better at particular times. As he did not improve in the country, he thought he would try a London doctor, so he came to town, and consulted the late Dr. Hope, a gentleman, who though he wrote a thick tome, entitled "Diseases of the Heart," was, I am sorry to say, altogether wrong in his treatment of them! The stethoscope in this case was as usual applied to the chest, and its annunciation was sepulchral. Hope here told no "flattering tale," for not only was the heart pronounced to be enlarged, but a fatal result was prophetically expressed. The treatment prescribed was not ill calculated to verify the prediction—carscarilla and ammonia,—with aperients!! and a *bleeding* every month, or six weeks!! The patient's health, as you may readily suppose, got worse and worse daily,—he became much emaciated in his person, and completely prostrate in mind. To sum up all, he had a tendency to fainting fits; in which state, by the advice of Dr. Selwyn of Ledbury, he came to me. You already guess the practice I adopted—chrono-thermal, of course. Yes, gentlemen, I ordered him first a combination of prussic acid and creosote, which I afterwards followed up by arsenic and quinine. I also prescribed a generous diet, with wine. Well, what was the effect of this?—Why, notwithstanding the depletion to which he had been subjected, he improved daily, and in about six weeks had become so well as to be able to resume his profession—the law, which profession, at the hour I speak, he follows with ardour, and without a complaint of any kind. Indeed, a letter which I recently received from Dr. Selwyn, gave me the news of his marriage. Yet this patient, according to the stethoscope, should have been dead and buried long ago!

Gentlemen, in confirmation of the value of Arsenic in disease of the heart, the details of a case from Darwin, who wrote, be it remembered, in the last century, may not be deemed unimportant:—"A gentleman, 65 years of age, had for about ten years been subject to an intermittent pulse, and to frequent palpitations of his heart. Lately the palpitations seemed to observe irregular periods, but the intermission of every third or fourth pulsation was almost perpetual. On giving him four drops of a saturated solution of *Arsenic* about every four hours, not only the palpitation did not return but the intermission ceased entirely, and did not return so long as he took the medicine."

The cases I shall now give you are three of many such which have occurred in my own practice:—

The Doctor is here we are sorry to say, as profoundly ignorant as the profession generally, of the magnetic symptoms, by which tubercular disease of the Heart, as in every other organ, is distinguished with facility and perfect certainty, in every case, and in any stage of the disease; and as this disease is sui-generis, or of its own kind, and therefore entirely different from functional derangement from excitement of the brain or any other cause, it is certainly a matter of some importance to be able to distinguish it.

The cases the Docter has given in illustration are those of functional derangement, and accounts for his success in treating "diseases of the heart." *Editor.*

Case 1.—A young lady was afflicted with palpitation of the heart, occasional cough, and so great a difficulty of breathing as to be unable to sleep, except when supported with pillows. She had frequent shivering fits; her abdomen and legs were much swelled, and her symptoms altogether so distressing, as to leave her friends with scarcely a ray of hope. Nevertheless, by the employment of silver, quinine, and prussic acid, she did eventually recover, to the surprise of all who know her. Remissions were well marked in this case.

Case 2.—A young gentleman, aged 16, had violent palpitation of the heart, headache, craving appetite, and some thirst, with great depression of spirits. He was much emaciated, and had a tendency to eruption of the skin. His hands and feet, which were generally cold by day, became during the night so hot, as frequently to keep him from sleeping. By a course of cold-plunge baths, alternated with the shower bath, and by the use at the same time of quinine and iron in combination, the young gentleman was completely restored to health—every one of the above symptoms having disappeared in a few weeks. He is now serving with his regiment in India, having reached the rank of lieutenant.

Case 3.—Major M 'P———'s heart palpitated so violently at times, that you could see the motions in a distant part of the room. This was the case when I was asked to see him. I ordered him prussic acid and musk, which stopped the palpitation in about two minutes after he took it. In the middle of the night he had a threatening of the complaint, but it was at once arrested by the same medicines. A continuation of them for about six weeks cured him completely.

Before dismissing affections of the heart, I must tell you that all of them, or almost all depend upon weakness of the Brain—as you may convince yourself by putting this question to your patient—How do you feel when anything disturbs your *mind*? The answer will almost invariably be, "Oh it brings on the palpitation at once," or the pain as the case may be. Gentlemen, strengthen the brain, and in few instances will you have any trouble about the heart. The brain is the great controller of every function—it is the true key to all good treatment.

We now come to consider

Pulmonary Consumption, or Decline.

When you see a person harassed with cough, and losing his flesh, and if, at the same time, he complains of shortness of breath and pain of the chest, and begins to expectorate a muco-purulent-looking matter, you may certainly set his disease down as *Consumptive*; for not only is his general health in that case manifestly wrong, but his lungs are more or less implicated,--and what does it signify in which of their tissues? what does it signify whether it be their mucous membrane, their glands, or their interstitial substance. If his general health from the time he becomes your patient, improve, he will naturally live as long as it continues to do so,—if not, and if it as progressively continue to get worse, he must die! Any further discussion of the matter, *quoad hoc*, resolves itself into the interminable question of Tweedle-*dum* and Tweedle-*dee*!

"Can Consumption be cured?" asked Mr. Abernethy, adding in his own sarcastic manner "Odd bless me! that's a question which a man who had lived in a dissecting-room would laugh at. How many people do you examine who have lungs tubercular which are otherwise sound. What is Consumption?—It is *tubercle* of the lungs—then if those tubercles were healed, and the lungs otherwise sound, the patient *must get better*; but if the inquirer shift his ground and say, "It was the case I meant of tubercles over the whole lungs," why then, he shifts his ground to no purpose, for there is no case of any disease which, when it has proceeded to a certain extent, can be cured."

The next question is what *are* Tubercles? I take this to be the true answer,—and I wish you to consider it well, for it is, or, I should rather say it *was*, until I took the liberty of enlightening the profession, totally at variance with their notions; some of them even *now* believing tubercles to be parasitical animals! Gentlemen, for the requisite lubrication of the mucous membrane of the cells and other air-passages of the lungs, there must be a certain amount of secretion. To supply this secretion, I need not tell *you* there *must* be a glandular apparatus; and accordingly a number of minute and almost imperceptible *Glands* in reality intersperse the entire tissue of the lungs—the pulmonary tissue, as it is called—but abound more particularly in the *upper portion* of it—that identical portion in which pathologists imagine they have detected the *commencement* of Consumption. But what they call the commencement is nothing more than an EFFECT or development of general constitutional disorder. If it be the beginning, it is the beginning of the end—the end of previous repeated febrile paroxysms of greater or less intensity. During such constitutional disorder, and particularly during the course of severe fevers—such as a long remittent fever, the fevers termed small pox, measles, and the like, these minute *pulmonary glands* become diseased, there being a previous *predisposition* of course; in other words, these glands being the original weak points of individuals having the consumptive tendency. Tubercles then are diseased pulmonary glands.—How many people have traced the Consumption of their children to the smallpox or measles—but would any man in his senses say the consumption was the cause of these fevers? Here it must have been the effect, and so also it may be the effect of any other kind of fever, and in no case can it be the cause of such fever—though, as in the giving way of any other part of the body, the local disease may in the course of time aggravate and keep up the febrile state. The affected gland is in this instance at first almost microscopically minute, but as the disease advances, it swells and becomes of a reddish gray colour, or it may at once take on a suppurative action—it may become an *abscess* varying from the size of a pea or less to that of a walnut or more, or it may go on enlarging to any extent without suppurating or becoming an abscess at all—the function of the affected lung in this case being, nevertheless, as completely disturbed as if it did take on the suppurative state; but in most cases of consumptive disease both kinds of disorganization go on at the same time, one gland or cluster of glands suppurating, and sooner or later bursting and discharging their contents into the air-passages, rendering the lungs at the same time more or less cavernous and hollow—another gland or cluster of glands swelling and coalescing so as to fill up and solidify the air-cells of the part they occupy. These at least are among the principal changes to be found in the lungs of persons who die of consumption, and they are all, as I have already said, more or less gradually produced in the course of repeated paroxysms of general remittent disorder. The matter expectorated by the patient consists of the contents of the tuberculous abscess, and more or less mucous, sometimes mixed with blood; while the cough is at one moment produced by a lodgment of matter in the air-passages, at another it is an effect of the cold air coming in contact with the ulcerated surface of the diseased lungs,—though almost every patient has it *periodically* spasmodic. To understand this subject in all its bearings, you have only to observe the more palpable changes which take place in the glands of the *Neck* of certain patients. These glands in the *healthy* living subject, can neither be seen nor felt; but apply any general influence that shall excite *Fever* in an individual predisposed to glandular disorder,—such as starvation, exposure to cold, or the abuse of mercury, and what do you find? Why, these very glands gradually enlarge and form tumours, which tumours, as in the case of tubercles of the lungs, are sometimes of a solid kind, and when examined after death have the same reddish grey appearance, but more frequently like them terminate in abscesses, the contents of which, so far as mere likeness is concerned, are the identical contents of pulmonary tubercles, or *vomicæ*, as these tubercles are sometimes called. In the one case, the patient is said to have the "Evil" or "Scrofula," in the other Phthisis or Consumption;—the difference of place, and the degree of importance of this in the animal economy, making the only difference between them.—In still farther proof of the correctness of this explanation, I may mention that Louis and others have detected *tuberculous* matter in various other *Glandular* parts of the body of patients who have died consumptive. If it be objected that they have also detected it in the *bones*, I answer, bones like every other part, have a glandular apparatus.[*]

We now come to the question of Cure, and from what we have already said, you must be aware, that however curable Pulmonary Consumption may be in the commencement, in the later stages—that is, where a very considerable portion of the lungs is destroyed—it cannot possibly be cured, though even in this case, the disease, by proper management, *may sometimes* be arrested.—But here, instead of confusing you with fine spun differences and distinctions, the delight of the schoolmen, I shall try to explain my meaning to you by *similitudes*; for similitudes, in the words of Fuller, are indeed "the windows that give the *best light*."—Many of you doubtless have had a certain portion of a tooth slowly *consumed* by disease, which disease, [tooth-*consumption* ?] by some change in your manner of living, or otherwise, has all of a sudden stopped, and the remaining sound portion of that identical tooth has continued to be useful to you for years!—Such arrest of the consumption of a tooth, I have often myself obtained by quinine internally administered; and Dr Irving of Cheltenham, some time ago, detailed to me two cases in which he succeeded with that remedy. Well, then, with medicines of this class, and sometimes even without any medicine at all, the same thing may take place in the lungs; and I have known persons reach a good old age, who had portions of their lungs destroyed, but who, by proper medicine, and attention to the temperature of their chambers, preserved the sound parts from going into further decay. Such persons, at greater or less intervals of time, may even be free from the graver symptoms of consumption, and only commence to expectorate during some change of weather, when they have slight febrile attacks, but these will leave them again on the return of warm weather.

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[*] We have published during the last ten years, more than 20 000 copies of different medical works, in which we have given precisely the same views of the origin of tubercles; not only in the lungs, but in every other part of the body; and the Doctor is consequently mistaken in suppposing himself to be the first person who had attempted to "enlighten" the profession on this subject.—*Editor.*

LECTURES
ON
ORGANIC CHEMISTRY;

Delivered during the Winter Session, 1844.
IN THE UNIVERSITY OF GIESSEN,
BY
JUSTUS LIEBIG, M. D., PH. D. F. R. S., M. R. I. A.,
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INTRODUCTION—No. IX.

Decay. Its Nature. A Slow Combustion. Relation of Decay to Fermentation and Putrefaction. Its use in the Arts. Bleaching. Manufacture of Vinegar by the quick process. Suggestions for improvements in the Fermentation of Beer and Wine.

THE immediate and most energetic cause of all the alterations and transformations which organic atoms undergo, is, as I have already stated in the preceding introductory remarks, the chemical action of oxygen. Fermentation and putrefaction manifest themselves only in consequence of the commencement of a process of decay; their completion is the restoration of a state of equilibrium. Whilst the oxygen is in the act of combining with any one of the elements of an organic substance the original state of equilibrium of attraction in all its elements is destroyed, the substance descomposes, resolving itself,—all the molecular attractions being again equalised,—into a series of new products, which undergo no further change in their properties unless further causes of disturbance or alteration are brought to operate upon them.

Although the chemical action which the elements of organic atoms exercise upon each other in fermentation and putrefaction balances itself, inasmuch as a state of rest is induced between the attractions of the new formed products, yet this equilibrium does not exist with respect to their attraction for oxygen. The chemical action of oxygen upon organic substances ceases only when the capacity of the elements to combine with oxygen is exhausted. That action consists in nothing more than the affinity, or tendency of the oxygen to combine with those elements. A perfect equalisation of this tendency, therefore, can only ensue when the elements, by combining with oxygen, have formed such products as are totally incapable of absorbing any additional amount of oxygen. It is only then that the attractions of the elements of organic substances attain a perfect equlibrium with the attraction of oxygen.

Fermentation or putrefaction represents the first stage of the resolution of complex atoms into more simple combination; the process of decay completes the circulation of the elements by transposing the products of fermentation and putrefaction into gaseous compounds. Thus the elements constituting all organised beings, which previously to participating in the vital process were oxygen compounds, such as with carbon and hydrogen, reassume the form of oxygen compounds. *The process of decay is a process of combustion taking place at the common temperature*,* in which the products of fermentation and putrefaction of plants and animal bodies combine gradually with the oxygen of the atmosphere.

No organised substance, no part of any plant or animal, after the extinction of the vital principle, is capable of resisting the chemical action of air and moisture; for all that power of resistance which they temporarily possessed as the bearers of life, the media of the vital manifestations, completely ceases with the death of the organism; their elements fall again under the unlimited dominion of the chemical forces.

The clearing of the primeval forests of America, and the facilitated access of air to that soil, so rich in vegetable remains, alters gradually, but altogether its constitution; after the lapse of a few years no trace of organic remains can be found in it. The soil of Germany in the time of Tacitus was covered with a dense, almost impenetrable forest; it must, at that period, have exactly resembled the soil of America, and have been rich in humus, and vegetable substances, but all the products of vegetable life in those primeval forests have completely vanished from our perceptions. The innumerable millions of molluscous and other animals, whose remains form extensive geological formations and mountains, have, after death, passed into a state of fermentation and putrefaction, and subsequently, by the continuous action of the atmosphere, all their soft parts have been transposed into gaseous compounds, and their shells and bones, their indestructible constituents, alone remain.

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* In order to avoid the ambiguity attached to the word decay, from its being in vernacular language applied to several processes which it is desirable to distinguish, the author proposed to substitute the term EREMACAUSIS, and this has been very generally adopted in scientific treatises, being a convenient mode of expressing the relation of decay to ordinary combustion.

It is only in localities, under peculiar circumstances, where the access of oxygen was limited or altogethor precluded, that we still find distinct remains of primeval vegetables in a state of retarded or impeded decay, as for example, in beds of turf and brown coal.

The presence of water and a suitable temperature are indispensable conditions of the oxidising process of decay, just as they are necessary to putrefaction and fermentation. Perfect dryness, or a temperature below the freezing point, suspends all processes of decay and fermentation. The transmission of decomposition from one particle to another presupposes a change of place ; it requires that the particles should possess mobility or the power of free motion, and this is imparted to them by the presence of water. In decay it is more especially a certain elevated temperature which increases the aptitude of the elements of organic substances to combine with the oxygen of the atmosphere.

A great number of organic bodies, when in a moist state are capable of absorbing oxygen, whilst many, and indeed most of them, are *per se* entirely deficient in this property.

If we place wet saw-dust, or moistened fragments of wood, into a vessel filled with atmospheric air, all the properties of the contained air become in a very short time completely altered. If a lighted splinter, which, of course, would burn in the atmospheric air, is introduced after the lapse of two or three hours, its flame will be immediately extinguished. The air confined in the vessel, if examined, will be found to have lost all its oxygen, and to have acquired an equal volume of carbonic acid gas. If a fresh supply of atmospheric air is made to replace this, the same process again occurs, all the oxygen becomes converted into carbonic acid.

In the process of bleaching in the open air, or, as it is called grass-bleaching, we have the process of decay applied to an important purpose in the arts upon a large scale. Linen or cotton textures consist of ordinary woody fibre, more or less colored by extraneous organic substances which were either contained in the plant whence the fibre has been derived, or have become mixed with it during the processes of preparation.

When linen or cotton fabrics are moistened with water and exposed to the light of the sun, a slow process of combustion, or decay, immediately begins upon the whole surface; the oxygen of the atmosphere in immediate contact with the linen or cotton is incessantly converted into carbonic acid. The weight of the fabric diminishes every second, precisely because it is in a state of combustion ; all the coloring matters gradually disappear and with them a considerable amount of woody fibre, their elements being converted into oxygen compounds. If this action of air and light upon the linen or cotton continues for a considerable time, these substances lose their cohesion and become converted into a matter similar to that used in the manufacture of paper, and this matter still continues to decay as long as the essential condition of this change, that is the absorption of oxygen, proceeds.

The nitrogenous constituents of plants and animals comport themselves towards oxygen in a manner precisely similar to the behaviour of the non-nitrogenous principle we have spoken of, namely, woody fibre. Fresh meat, as well as the first products of the decomposition of the nitrogenous constituents of plants, by fermentation, that is, beer-yeast or wine-yeast, withdraw oxygen from atmospheric air, and, like woody fibre, yield in return an equal volume of carbonic acid.

When the Cemetery of the Innocents at Paris was removed from the interior of the town to the outside of the barriers, the buried corpses, which had accumulated to a depth of sixty feet, were found to a great extent apparently converted into fat. The substance of the skin, muscles, cellular tissue, and tendons, all the soft parts, and even the bones, had completely disappeared, leaving only the fat, which resisting longest the influence of decay, remained in the form of stearic acid. This human fat was employed to the extent of many tons by the soap boilers and tallow-chandlers of Paris, for the manufacture of soap and candles.

If meat be suspended in running water, or buried in moist earth, nothing of it will remain after the lapse of some time except the fat which it contains.

All substances susceptible of decay, when in a moist state, and exposed to the air and light at the common temperature, undergo precisely the same change as they would if exposed to a red heat, in a dry state, that is, they absorb oxygen,—they undergo combustion.

Alcohol, one of the products of the fermentation of saccharine vegetable juices, is altogether incapable of undergoing the process of decay; when exposed to the air, wether in its pure state or mixed with water, it evaporates without combining with oxygen. Alcohol is readily inflammable at a higher temperature, and in burning is resolved into carbonic acid and water. It is obvious that its elements have a powerful affinity for oxygen ; the high temperature is, however, a necessary condition of the manifestation of this affinity. Hydrogen gas and many other inflammable substances, are, in this respect, precisely similar to alcohol, their affinity for oxygen manifests itself only at certain high temperatures.

In the process of decay it has been likewise observed that a substance undergoing this state of elementary transposition exercises a remarkable influence upon the particles of an adjacent substance, which *per se*, would not be capable of passing into the same state of change, decay or transposition.

Many substances, when in contact with another in a state of decay manifest, at common temperatures, an affinity for oxygen ; that is, they enter into combination with this element, at this low temperature, whilst under other circumstances such a combination can only be effected by a far higher degree of heat.

The active absorption of oxygen, the combustion of the dacaying substance, is transmitted to the particles of other substances in contact with it ; they assume its characteristic state of activity ; they like it, combine with oxygen, as if undergoing a real combustion ; but how this is effected does not appear to admit any further explanation.—Contact with a substance in decay is the chief condition of decay for all organic substances which do not possess the power of combining with oxygen at common temperatures. In consequence of the ensuing combination of its elements with oxygen the temperature of the decaying substance rises above that of the surrounding medium ; but great as the influence in which heat exercises in accelerating the process, it is not in this, as in other chemical processes, the cause of the manifestation of the affinity for oxygen.

If, in a vessel filled with common atmospheric air, to which a certain amount of hydrogen gas has been added, a linen bag be suspended, filled with wet saw-dust, vegetable mould, &c. the process of decay will continue just as it would if they were exposed to the open air. They will convert the surrounding oxygen into carbonic acid. But what is very remarkable in this case, the hydrogen also participates in the process, it undergoes decay ; that is, from being in contact with decaying substances it acquires the power of combining with oxygen at the common temperature there be a sufficient amount of oxygen present all the hydrogen gas is converted into water.

Other inflammable gases, both simple and compound, are affected under these circumstances in exactly the same manner as hydrogen. The vapour of alcohol, for example, when in a vessel containing wood or other substances in a state of decay, absorbs oxygen from the atmosphere, and becomes transformed into aldehyde, and subsequently into acetic acid, which upon assuming a fluid state, is withdrawn from the further influence of the oxygen.

It is upon this power of substances undergoing decay, to increase the attraction of all organic substances for oxygen, and especially the affinity of alcohol for this element, that a speedy process for acidifying alcohol is based, which is termed the "quick vinegar process."

The transformation of fermented liquors into vinegar formerly required weeks, and even months to accomplish, in consequence of the imperfect access of the air ; we can now convert alcohol into vinegar in less than twenty-four hours, and this is effected mainly by making brandy diluted with water, or any other weak spirituous liquor, trickle slowly through casks filled with wood shavings, and at the same time causing a slight stream of air to circulate through these shavings. This method exposes to the air a surface of alcohol capable of absorbing oxygen by many thousand times more extensive than the old method, and consequently the time which alcohol, under ordinary circumstances, requires for its acidification is abridged in the same proportion. At the commencement of this process it is usual to add to the dilute spirit a small quantity of some substance containing matter capable of undergoing the process of decay, such as beer-wort, hony, vinegar, &c., but after the lapse of a very short time the surface of the wood shavings passes into a state of oxidation, and from that moment effects the transformation of the spirit into vinegar without the further cooperation of extraneous decaying matter.

The application of our knowledge respecting the phenomena attendant upon decay, to the manufacture of beer and wine, is easy and obvious. The property of beer and wine to be converted into vinegar when in contact with the air, depends invariably upon the presence of foreign matters which transmit their own inherent aptitude to absorb oxygen to the particles of alcohol in contact with them. By removing completely all such substances from wine and beer, these lose altogether the property of acidifying, or of being converted into vinegar.

In the juice of grapes pour in sugar there remains, after the completion of the process of fermentation, that is, after the resolution of the sugar into carbonic acid and alcohol, a considerable amount of nitrogenous constituents retaining the same properties which they possessed in the juice previous to fermentation. This does not happen with the juice of the grapes of southern climates. These grapes are rich in sugar, and a considerable amount of this substance remains undecomposed after all nitrogenous matters have completely separated in an insoluble state, as yeast. Such wines alter very little when exposed to the air; the red wines of this kind, however, acidify because their colouring matter is of ready mutability, and performs, when in contact with the air, the part of the nitrogenous constituents.

The nitrogenous constituents of the grape-juice which remain in wine, after fermentation, are those ferments or excitors of fermentation in the sugar, of which I have already spoken in previous papers. After the complete transformation of the sugar they exercise upon the alcohol exactly the same effect as the decaying wood, they are the exciting causes of the ensuing process of acidification.

The affinity of these substances for oxygen is very powerful; during the short space of time necessary to transfer wine from one cask into another, they absorb oxygen from the air, and induce a state of acidity in the wine, which goes on irresistibly if it be not checked by artificial means. It is well known that this check is practically effected by sulphuration. A piece of sulphur is burned in the cask destined to receive the wine, the contained air is thus deprived of its oxygen, and an amount of sulphurous acid is formed equal to the volume of the oxygen. This newly-formed sulphurous acid is rapidly absorbed by the moist internal surface of the cask. Sulphurous acid possesses a stronger affinity of oxygen than the excitors of acidification in the wine. The acid is gradually diffused from the internal surface of the cask through the wine, and withdraws from those substances, as well as from the wine itself, all the oxygen they have absorbed from the atmosphere and thus reconverts the wine into the state in which it existed previous to being transferred into the new cask. The sulphurous acid in this process becomes converted into sulphuric acid, and exists as such in the wine.

When the wine is strored up in casks to ripen, a constant, although very slow diffusion of air takes place, through the pores of the wood, or, what comes to the same thing, the wine is incessantly in contact with a minute amount of oxygen, by means of which, after the lapse of a certain time, the entire quantity of the excitors of acidification, that is, the nitrogenous substances present in the wine, oxidise and separate in the form of a sediment, or dregs, termed under-yeast.

The separation of yeast from wine or beer, during the fermentation of grape-juice or of wort, takes place in consequence of the absorption of oxygen, or, in other words, a process of oxidation, occurring in the fermenting liquid. The nitrogenous constituent of barley is in its primary state insoluble in water, but in the process of malting, or whilst the grain is germinating, it becomes soluble in water, it assumes the same condition or nature which belongs to the nitrogenous constituent of grape-juice originally.

Both these substances lose their solubility in wine, or in beer, by absorbing oxygen. According to analyses in which we may confide, made with regard to this point, wine-yeast, and beer-yeast are far richer in oxygen than the nitrogenous substances from which they are derived.

As long as any particles of sugar, in a state of fermentation, are present in the fluid together with these nitrogenous matters, the fluid itself supplies the oxygen required for their transformation into yeast by the decomposition of a small amount of the sugar or of water. This oxidising process within the fluid itself, which causes the nitrogenous constituents to become insoluble, ceases with the disappearance of the sugar; but it is renewed if the fluid is reconverted into a fermenting state, by the addition of new portions of sugar, and it ensues also when the surface of the fluid is exposed to the free access of the atmosphere. In the latter case separation of the nitrogenous constituents is effected by the atmospheric oxygen, and is thus a consequence of their decay or slow combustion.

I have already stated that the presence of nitrogenous matters in alcohol causes the transformation of the alcohol into acetic acid when there is a sufficient supply of air; now it is owing to the inequalities in their relative affinities for oxygen, that during the maturation of wine in the storehouse when the access of air is extremely limited, that the nitrogenous substances alone oxidise, and not the alcohol. In open vessels, under these circumstancees, the wine would become converted into vinegar.

The preceding remarks render it obvious that if we possessed any means of preventing the transformation of alcohol into acetic acid we should be able to preserve wine and beer for an unlimited period, and to bring these liquors into a state of perfect maturity; for, under such circumstances, all those substances which cause wine and beer to acidify would become insoluble by combining with oxygen, and separate from the liquid, and with their perfect removal the alcohol present would altogether lose the property of absorbing oxygen.

Experimental art has discovered a means of accomplishing this purpose perfectly. It consists in maintaining the fluid at a low temperature when undergoing fermentation. The method based upon this principle, and employed in Bavaria, is one which the most perfect theory could scarcely have surpassed in certainty and simplicity, and it seems impossible to devise one more in accordance with science.

The transformation of alcohol into acetic acid by contact with a substance in a state of decay occurs most rapidly at a temperature of 35° (=95° Fahrenheit.) At lower temperatures the affinity of alcohol for oxygen decreases, and at from 8° to 10° C. (= 46° 50°, Fahrenheit) no combination with oxygen takes place under these circumstances, whilst the tendency of nitrogenous substances to absorb oxygen at this low temperature is scarcely diminished in any perceptible degree.

It is, therefore, obvious that if wort is fermented in wide, open, and shallow vessels, as is done in Bavaria, which afford free and unlimited access to the atmospheric oxygen, and this in a situation where the temperature does not exceed 8 to 10 degrees (= 46° to 50 Fah.,) a separation of the nitrogenous constituents, *i.e.*, the excitors of acidification, takes place simultaneously on the surface, and within the whole body of the liquid — The clearing of the beer is the sign by which it is known that these matters are separated. A more or less perfectly complete removal of these nitrogenous substances, however, according to this method of fermentation, depends upon the skill and experience of the brewer. It may be easily conceived that an absolutely perfect separation of them is attained only in rare and extremely happy instances. Nevertheless, the beer obtained in this manner is invariably far superior in quality and stability to that brewed according to the common method.

The exceedingly favourable influence which the adoption of this principle must exercise upon the manufacture of wine is indisputable. It is too evident to admit of a doubt that it will lead to the adoption of a more rational method than has hitherto been employed. The reason that it has not long since been in use, and that the growers of wine have not derived from it the great advantages it is calculated to afford, is obviously their imperfect knowledge respecting it; nay, I may say the total ignorance of the great majority of wine-growers and manufacturers upon this point.

Wine prepared by this method will, of course, bear the same relation to the wine prepared in the ordinary way, as Bavarian beer bears to common beer, in the fabrication of which the same amount of malt and hops has been employed. In the shortest possible time the same quality, the same maturity, may be attained by the wine which, under ordinary circumstances, result, only after long and protracted storing. If it be borne in mind that the period for the manufacture of wine is the end of October, just at the cool season which is peculiarly favourable to the fermentation of beer, and that no other conditions are necessary to the vinous fermentation than a cool cellar, and open, wide, shallow fermenting vessels; and further, that under all circumstances the danger of acidification being much less with wine than with beer, it is evident that the best success may confidently be expected from the application of this method.*

The method employed at most places on the Rhine proceeds upon principles the very reverse of this The wine is left to ferment, not in cool cellars, but in rooms, situated much too high and too warm; the access of air is completely precluded during the process of fermentation by tin-plate tubes, confined with water. These tubes certainly exercise an injurious effect upon the quality of the wine; they are, in every respect, futile— the invention of some idle brain; they serve no object, and yet they are used by people who are too idle to inquire into the matter, and who are wholly incapable of assigning any reason for their adoption.

M. Beau has never witnessed a case of spontaneous acute peritonitis in old age. When the chronic disease has been observed at this period of life, it has generally been the consequence of cancerous (not tuberculous) productions within the abdomen.

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* One of the most intelligent agriculturists and wine-growers of the Grand Duchy of Baden, Baron von Babo, remarks, in a letter to me, dated April, 1843, "With respect to the application of the Bavarian method of fermentation to the manufacture of my red wine last autumn, I am happy to inform you that it answered excellently. Our wine-makers cannot understand the matter, clear and obvious as it is, that the method which it is universally acknowledged yields most excellent results in the manufacture of beer, should be equally advantageously applied to making wine.

An experiment made with red wine in the autumn of 1841, by the same nobleman, had afforded the same favourable results, especially as to the colour of the wine. Before these successful experiments it might have been thought that *red* wine was the rock upon which this method would founder, but we are now assured of its universal adaptation to the manufacture of wines.

Cures of various Diseases with Mesmerism, by different Gentlemen.

To the Editor of the Zoist.

Sir.—I send you the following accounts of the utility of mesmerism in diseases treated not by myself. The first is written by myself; the others by the gentlemen who did the good. I remain, yours, &c.,

London, June 26th 1844.

JOHN ELLIOTSON

Allow me to quote the following passage from Mrs. Romer's charming work, called the *Rhone, Darro and Guadalquiver*:

"Shall I not be hailed with a shout of derision when I declare, that I verily believe Petrarch to have been (all unknown to himself, and, as innocently ignorant of his powers as Moliere's Bourgeois Gentilhomme was, who had been making prose all his life *sans s'en douter*) a most expert magnetizer?—I ground my belief upon a passage in his life, which has been dwelt upon by one of his biographers as demonstrating the errors into which a romantic imagination will hurry even a mind like Petrarch's, and the fond credulity with which he made complete abnigation of his powers of reasoning whenever any chance incident occurred of a nature to corroborate his assertions of a mystical sympathy existing between himself and her to whom his affections were exclusively devoted.

"The anecdote sets forth, that, one day at Avignon, Petrarch, who was in the habit of reciting his compositions to Laura, read to her a poem, in which, under suppositious names, the history of his passion, and the misery which the inflexible virtue of its fair object had inflicted upon him, were described with a truth and pathos which left no possibility of misapprehension in the mind of his listener. Laura understood him but too well, yet she abstained from uttering any remark to that effect. When the poem was finished, a long silence ensued; during which the eyes of each were fixed upon the other with an expression of tenderness so intense that their very souls appeared to have become transfused in that absorbing glance. At that time Laura was suffering from a slight opthalmia; and it so chanced, says the biographer, that, on the following day, her eyes were completely restored to a healthy state, while, by an extraordinary coincidence, those of Petrarch were painfully attacked by the distressing malady under which she had suffered. Her lover, however, firmly believed that the force of sympathy, and, more especially, the ardent desire he had felt, while gazing upon her the preceding day, to relieve her from her sufferings, had given him the power to transfer them from her to himself; for such was his faith in the strength and purity of his love for her, that he believed it capable of performing miracles in her favor.

"Was not this miracle, however, the simple agency of animal magnetism, directed by those two most powerful engines *the eye and the will?* I have no doubt in my own mind on the subject; and I have so frequently seen magnetizers affected by the identical symptoms from which they had relieved their patients, that the circumstance of Petrarch having gained the opthalmia of which Laura had so suddenly been cured is to me an additional and convincing proof, that the occurrence which he had fancied to be a miracle, and which his historian had attributed to the delusions of an overwrought imagination, was neither more nor less than one of those physical phenomena of which I have seen more than one example in the practice of animal magnetism, and which form the most extraordinary and perhaps inexplicable characteristics of magnetic attraction and sympathy in the human frame.

Let those who are inclined to smile at the opinion of this accomplished lady, read the following narration.

I have just been attending a young lady for an affection of her lungs, in conjunction with Dr. Ashburner. The outer half of the white of the right eye became slightly inflamed, and grew very gradually worse for a fortnight. It then got much worse in three days, the aching being changed into sharp pains both in the eye and the temple; and the inflamed portion became of an intense and uniform red, with a palish elevation at one spot as though a pustule would form. We had been anxious to distress and weaken her as little as possible, but were now compelled to take some measure for arresting the disease, and prescribed a blister, and mercurial medicine.

She was so agitated at hearing of our prescription, that neither the blister was put on, nor the mercurial taken. Mr. Atkinson, being a friend who was frequently at the house, mesmerised the eye the same night, (Friday June 21 st.) In the morning I found she had for the first time during three days been free from the darting pains, had slept all night—a thing she had not done for a considerable time, and that the eye was to my view less inflamed. He mesmerised it the next night, and on Sunday she was still free from all the darting pains and had slept all night, and the eye was decidedly better. He mesmerised it again with all the same results, and on Monday she had lost even the aching which she suffered for a fortnight before the darting pains. On Tuesday, the last night's mesmerisation had almost dissipated the inflammation; and to-day (Wednesday) all I see is that the eye has been inflamed—there is just a vestage left. This is as decided a cure by mesmerism as ever I have witnessed. No means but mesmerism were employed; the disease was severe, and had increased up to the moment of mesmerisation; and declined immediately after the first mesmirisation, and cleared off with a rapidity which was astonishing: and the instantaneous relief of the pain was what could not have been accomplished by any other means so admirably, for the remedy, unlike others, neither caused pain, inconvenience, or weakness.

COROLLARIES.

1. "During health the system is animated by a *spiritual, self moved vital power* which preserves it in harmonious order."

2. "It is only by means of the *spiritual* influence of the morbific agent, that our *spiritual vital power*, can be diseased, and in like manner, only by the *spiritual* (dynamic) operation of medicine that health can be restored."

3. "The homœpathic healing art developes for its purpose the IMMATERIAL (DYNAMIC) VIRTUES OF MEDICINAL SUBSTANCES, and to a degree previously unheard of, by means of a *peculiar* and HITHERTO UNTRIED PROCESS. By this process it is that they become penetrating, operative, and remedial, even those that in a *natural or crude state*, betrayed not the *least medicinal power* upon the human system."—

HAHNEMANN

It was the magnetising process by which Hahnemann increased the power of his medicines, and the same as that directed and practised by Clairvoyants, in the mesmeric state.

At one time, men would make for themselves an imaginary incorporeal something, which guided and ruled the whole system in its vicissitudes of health and disease (Van Helmont's *Archæus*, Stahl's *Animal Soul*,); at another, they could flatter themselves they had discovered the secret of physical constitutions and temperaments, as well as of the origin of particular diseases and epidemics, in the constellations of the stars, in an influence emanating from the heavenly bodies, many millions of miles distant;—or (according to the modern wide-spread notion, based on ancient absurdities), the human body, in agreement with the primeval mystic Trinity, developed itself in triplicity, presented a miniature of the universe (microcosm-macrocosm); and thus, by means of our knowledge of the great whole, miserably defective as it is, was to be explained, to a hair's-breadth. That which had baffled clear chemistry and physics, dim, self-unintelligible mysticism and frenzied fancy were to bring to light: where young natural philosophy had failed, old astrology was to succeed.

Thus did the leaders of the medical sects and their followers, whenever they sought to analyze health and disease, and its cure, deviate more or less widely from the truth; and the only use of piles of folios, quartos, and octavos, which cost a lamentable expenditure of time and energy, is to frighten us from indulging in a like explanation-mania, and teach us that all such immense exertions are nothing but pernicious folly.

HAHNEMANN.

According to theory founded upon an innumerable number of corresponding facts the magnetic forces pervade all space; are innate in, and produce motion in every kind of matter. In the air; in odors; in fluids, and solids; in the solar system, and in the vegetable and animal kingdoms.

These forces which the ancients called male and female spiritual forces, are generally imbued more or less with minute or evanescent portions of different kinds of matter of the bodies with which they are connected, and which apparently modifies their action in some degree, under certain circumstances, and hence the modern names of electricity, galvanism, and electro-magnetism, &c.

Besides these evidences of the ignorance of the moderns upon this subject, they call these forces a fluid. They never it seems can have any conception of any thing finer than a fluid—of spirit, without attaching to it the idea of a fluid, which has in fact no character in common with it. The following article from the Columbian Magazine, may, however give them some new and important views of this interesting subject.

MESMERIC REVELATION.

BY EDGAR A. POE.

Whatever doubt may still envelope the *rationale* of mesmerism, its startling *facts* are now almost universally admitted. Of these latter, those who doubt are your mere doubters by profession—an unprofitable and disreputable tribe. There can be no more absolute waste of time than the attempt to *prove*, at the present day, that man, by mere exercise of will, can so impress his fellow as to cast him into an abnormal condition, whose phenomena resemble very closely those of *death*, or at least resemble them more nearly than they do the phenomena of any other normal condition within our cognizance; that, while in this state, the person so impressed employs only with effort, and then feebly, the external organs of sense, yet perceives, with keenly refined perception, and through channels supposed unknown, matters beyond the scope of the physical organs; that, moreover, his intellectual faculties are wonderfully exalted and invigorated; that his sympathies with the person so impressing him are profound; and finally, that his susceptibility to the impression increases with its frequency, while, in the same proportion, the peculiar phenomena elicited are more extended and more *pronounced*.

I say that these—which are the laws of mesmerism in its general features—it would be supererogation to demonstrate; nor shall I inflict upon my readers so needless a demonstration to-day. My purpose at present is a very different one indeed. I am impelled, even in the teeth of a world of prejudice, to detail without comment the very remarkable substance of a colloquy, occuring not many days ago between a sleep waker and myself.

I had long been in the habit of mesmerising the person in question, (Mr. Vankirk,) and the usual acute susceptibility and exaltation of the mesmeric perception had supervened. For many months he had been laboring under confirmed phthisis, the more distressing effects of which had been relieved by my manipulations ; and on the night of Wednesday, the fifteenth instant, I was summoned to his bedside.

The invalid was suffering with acute pain in the region of the heart, and breathed with great difficulty, having all the ordinary symptoms of asthma In spasms such as these he had usually found relief from the application of mustard to the nervous centres, but to-night this had been attempted in vain.

As I entered his room he greeted me with a cheerful smile, and although evidently in much bodily pain, appeared to be, mentally, quite at ease.

‘ I sent for you to night" he said, "not so much to administer to my bodily ailment as to satisfy me concerning certain psychal impressions which, of late, have occasioned me much anxiety and surprise. I need not tell you how skeptical I have hitherto been on the topic of the soul's immortality. I cannot deny that there has always existed, as if in that very soul which I have been denying, a vague, half sentiment of its own existence. But this half sentiment at no time amounted to conviction. With it my reason had nothing to do. All attempts at logical inquiry resulted, indeed, in leaving me more skeptical than before. I had been advised to study Cousin. I studied him in his own works as well as in those of his European and American echoes. The "Charles Elwood" of Mr. Brownson, for example, was placed in my hands. I read it with profound attention. Throughout I found it logical, but the portions which were not *merely* logical were unhappily the initial arguments of the disbelieving hero of the book. In his summing up it seemed evident to me that the reasoner had not even succeeded in convincing himself. His end had plainly forgotten his beginning, like the government of Trinculo. In short, I was not long in perceiving that if man is to be intellectually convinced of his own immortality, he will never be so convinced by the mere *abstractions* which have been so long the fashion of the moralists of England, of France, and of Germany. Abstractions may amuse and exercise, but take no hold upon the mind. Here upon earth, at least, philosophy, I am persuaded, will always in vain call upon us to look upon qualities as things. The will may assent—the soul—the intellect, never.

I repeat, then, that I only half felt, and never intellectually believed. But latterly there has been a certain deepening of the feeling, until it has come so nearly to resemble the acquiescence of reason, that I find it difficult to distinguish between the two. I am enabled, too, plainly to trace this effect to the mesmeric influence. I cannot better explain my meaning than by the hypothesis that the mesmeric exaltation enables me to perceive a train of convincing ratiocination—a train, which in my abnormal existence, convinces, but which, in full accordance with the mesmeric phenomena, does not extend, except through its *effect*, into my normal condition. In sleep-waking, the reasoning and its conclusion—the cause and its effect—are present together. In my natural state, the cause vanishing, the effect only, and perhaps only partially, remains.

These considerations have led me to think that some good results might ensue from a series of well directed questions propounded to me while mesmerized. You have often observed the profound self-cognizance evinced by the sleep-waker, the extensive knowledge he displays upon all points relating to the mesmeric condition itself ; and from this self-cognizance may be deduced hints for the proper conduct of a catechism.

I consented of course to make this experiment. A few passes threw Mr. Vankirk into the mesmeric sleep. His breathing became immediately more easy, and he seemed to suffer no physical uneasinesss. The following conversation then ensued. V. in the dialogue representing Mr. Vankirk, and P. myself.

P. Are you aslseep ?

V. Yes—no ; I would rather sleep more soundly.

P. (*After a few more pauses.*) Do you sleep now ?

V. Yes.

P. Do you still feel the pain in your heart ?

V. No.

P. How do you think your present illness will result?

V. (*After long hesitation and speaking as if with effort.*) I must die.

P. Does the idea of death afflict you?

V. (*Very quickly.*) No—no!

P. Are you pleased with the prospect?

V. If I were awake I should like to die, but now it is no matter. The mesmeric condition is so near death as to content me.

P. I wish you would explain yourself, Mr. Vankirk.

V. I am willing to do so, but it requires more effort than I feel able to make. You do not question me properly.

P. What then shall I ask?

V. You must begin at the beginning.

P. The beginning? but where is the beginning.

V. You know that the beginning is God. [This was said in a low, fluctuating tone, and with every sign of the most profound veneration.]

P. What then is God?

V. (*Hesitating for many minutes.*) I cannot tell.

P. Is not God spirit?

V. While I was awake I knew what you meant by "spirit," but now it seems only a word—such for instance as truth, beauty,—a quality, I mean.

P. Is not God immaterial?

V. There is no immateriality—it is a mere word. That which is not matter is not at all, unless qualities are things.

P. Is God, then, material?

V. No. [*This reply startled me very much.*]

P. What then is he?

V. (*After a long pause and mutteringly*) I see—but it is a thing difficult to tell. [Another long pause.] He is not spirit, for he exists. Nor is he matter, *as you understand it* But there are *gradations* of matter of which man knows nothing; the grosser impelling the finer, the finer pervading the grosser. The atmosphere, for example, impels or modifies the electric principle, while the electric principle permeates the atmosphere. These gradations of matter increase in rarity or fineness, until we arrive at matter a *unparticled*—without particles—indivisible—*one*; and here the law of impulsion and permeation is modified. The ultimate, or unparticled matter, not only permeates all things but impels all things—and thus *is* all things within itself. This matter is God. What men vaguely attempt to embody in the word "thought," is this matter in motion.

P. The metaphysicians maintain that all action is reducible to motion and thinking, and that the latter is the origin of the former.

V. Yes; and I now see the confusion of idea. Motion is the action of *mind*—not of *thinking*. The unparticled matter, or God, in quiescence, is (as nearly as we can conceive it) what men call mind. And the power of self-movement (equivalent in effect to human volition) is, in the unparticled matter, the result of its unity and omniprevalence; *how*, I know not, and now clearly see that I shall never know. But the unparticled matter, set in motion by a law, or quality, existing within itself, is thinking.

P. Can you give me no more precise idea of what you term the unparticled matter?

V. The matters of which man is cognizant escape the senses in gradation. We have, for example, a metal, a piece of wood, a drop of water, the atmosphere, a gas, caloric, light, electricity, the luminiferous ether. Now we call all these things matter, and embrace all matter in one general definition; but in spite of this, there can be no two ideas more essentially distinct than that which we attach to a metal, and that which we attach to the luminiferous ether. When we reach the latter, we feel an almost irresistible inclination to class it with spirit, or with nihility. The only consideration which restrains us is our conception of its atomic constitution; and here, even, we have to seek aid from our notion of an atom, possessing in infinite minuteness, solidity, palpability, weight. Destroy the idea of the atomic constitution and we should no longer be able to regard the ether as an entity, or at least as matter. For want of a better word we might term it spirit. Take, now a step beyond the luminiferous ether—conceive a matter as much more rare than the ether as this ether is more rare than the metal, and we arrive at once (in spite of all the school dogmas) at an unique mass—at unparticled matter. For, although we may admit infinite littleness in the atoms themselves, the infinitude of littleness in the spaces between them is an absurdity. There will be a point, there will be a degree of rarity, at which if the atoms are sufficiently numerous, the interspaces must vanish, and the mass absolutely coalesce. But the consideration of the atomic construction being now taken away, the nature of the mass inevitably glides into what we conceive of *spirit*. It is clear, however, that it is as fully *matter* as before. The truth is, it is impossible to conceive spirit, since it is impossible to imagine what is not. When we flatter ourselves that we have formed its conception, we have merely deceived our understanding by the consideration of infinitely rarefied matter.

P. But, in all this, is there nothing of irreverence? [I was forced to repeat this question before the sleep-waker fully comprehended my meaning.]

V. Can you say *why* matter should be less reverenced than mind? But you forget that the matter of which I speak is, in all respects, the very "mind" or "spirit" of the schools, so far as regards its high capacities, and is, moreover, the "matter" of these schools at the same time. God, with all the powers attributed to spirit, is but the perfection of matter.

P. You assert, then that the unparticled matter in motion, is thought?

V. In general, this motion is the universal thought of the universal mind. This thought creates. All created things are but the thoughts of God.

P. You say "in general."

V. Yes. The universal mind is God.—For new individualities, *matter* is necessary.

P. But you speak of "mind" and "matter" as do the metaphysicians.

V. Yes—to avoid confusion. When I say "mind," I mean the unparticled or ultimate matter; by "matter," I intend all else.

P. You were saying that "for new individualities matter is necessary."

V. Yes; for mind existing unincorporate, is merely God. To create individual, thinking beings, it was necessary to incarnate portions of the divine mind. Thus man is individualized. Divested of corporate investiture, he were God. Now, the particular motion of the incarnated portions of the unparticled matter is the thought of man; as the motion of the whole is that of God.

P. You say that divested of the body man will be God?

V. (*After much hesitation.*) I could not have said this; it is an absurdity;

P. (*Referring to my notes.*) You *did* say that "divested of corporate investiture man were God."

V. And this is true. Man thus divested *would be* God—would be unindividualized.—But he can never be thus divested—at least never *will* be—else we must imagine an action of God returning upon itself—a purposeless and futile action. Man is a creature. Creatures are thoughts of God. It is the nature of thought to be irrevocable.

P. I do not comprehend. You say that man will never put off the body?

V. I say that he will never be bodiless.

P. Explain.

N. There are two bodies—the rudimental and the complete; corresponding with the two conditions of the worm and the butterfly. What we call "death" is but the painful metamorphosis. Our present incarnation is progressive, preparatory, temporary. Our future is perfected, ultimate, immortal. The ultimate life is the full design.

P. But of the worm's metamorphosis we are palpably cognizant.

V. *We*, certainly—but not the worm.—The matter of which our rudimental body is composed, is within the ken of the organs of that body; or more distinctly our rudimental organs are adapted to the matter of which is formed the rudimental body; but not to that of which the ultimate is composed. The ultimate body thus escapes our rudimental senses, and we perceive only the shell which falls in decaying from the inner form; not that inner form itself; but this inner form, as well as the shell, is appreciable by those who have already acquired the ultimate life.

P. You have often said that the mesmeric state very nearly resembled death. How is this?

V. When I say that it resembles death, I mean that it resembles the ultimate life; for the senses of my rudimental life are in abeyance, and I perceive external things directly, without organs, through a medium which I shall employ in the ultimate, unorganized life.

P. Unorganized?

V. Yes; organs are contrivances by which the individual is brought into sensible relation with particular classes and forms of matter, to the exclusion of other classes and forms. The organs of man are adapted to his rudimental condition, and to that only; his ultimate condition, being unorganised, is of unlimited comprehension in all points but one—the nature of the volition, or motion, of the unparticled matter. You will have a distinct idea of the ultimate body by conceiving it to be entire brain. This it is *not;* but a conception of this nature will bring you near to a comprehension of what it *is*. A luminous body imparts vibration to the luminiferous ether. The vibrations generate similar ones within the retina, which again communicate similar ones to the optic nerve. The nerve conveys similar ones to the brain; the brain, also, similar ones to the unparticled matter which permeates it. The motion of this latter is thought, of which perception is the first undulation. This is the mode by which the mind of the rudimental life communicates with the external world; and this external world is limited through the idiosyncrasy of the organs. But in the ultimate, unorganized life, the external world reaches the whole body, (which is of a substance having affinity to brain, as I have said) with no other intervention than that of an infinitely rarer ether than even the luminiferous; and to this ether—in unison with it—the whole body vibrates, setting in motion the unparticled matter which permeates it.—It is to the abscence of idiosyncratic organs, therefore, that we must attribute the nearly unlimited perception of the ultimate life.—To rudimental beings, organs are the cages necessary to confine them until fledged.

P. You speak of rudimental " beings".—Are there other rudimental thinking beings than man ?

V. The multitudinous conglomeration of rare matter into nebulæ, planets, suns and other bodies which are neither nebulæ, suns, nor planets, is for the sole purpose of supplying *pabulum* for the idiosyncrasy of the organs of an infinity of rudimental beings.—But for the necessity of the rudimental, prior to the ultimate life, there would have been no bodies such as these. Each of these is tenanted by a distinct variety of organic, rudimental, thinking creatures. In all, the organs vary with the features of the place tenanted. At death, or metamorphosis, these creatures, enjoying the ultimate life, and cognizant of all secrets but *the one*, pervade at pleasure the weird dominions of the infinite.

As the sleep-waker pronounced these latter words, in a feeble tone, I observed upon his countenance a singular expression, which alarmed me, and induced me to awake him at once. No sooner had I done this, than, with a bright smile irradiating all his features, he fell back upon his pillow and expired. I noticed that in less than a minute afterwards his corpse had all the stern rigidity of stone.

Observations in Midwifery.

By Tyler Smith, M. B., London.

Sketch of the Physiology of Parturition.

" At the time of labour *a new principle* supersedes those of ascension and descent. This gives a disposition to the uterus to exclude whatever is contained in its cavity, and the effect produced is in proportion to the energy of the *principle,* and to the power of the uterus. A perfect intelligence of this *principle,* and of the mode of its operation, would probaly be of infinite use in practice, as we might be enabled to suppress the action thereby occasioned when premature, moderate it when too violent, strengthen it when too feeble, and regulate it in a variety of ways conducive to the welfare of our patients On the knowledge we at present have of the manner in which this *principle* operates, and the circumstances by which it is influenced. the assistance which science and dexterity can give in cases of difficult parturition, and in preventing abortions, very much depends."—*Denman.*

Up to the present time it will be acknowledged that the parturient function of the uterus has been an *unwritten* chapter in physiology. The nature and causes of the motor forces which expel the fœtus have been in great measure lost sight of, obstetricians having chiefly occupied themselves with an examination of the mechanism of labour,—in defining the mensuration of the different diameters of the pelvis and of the fœtal head,—and in settling the precise axis along which the child passes. These are points of practical moment, inasmuch as by a knowledge af them we judge if the passage of the head can be accomplished without artificial assistance; but they are not capable of more extended application to the management of labour.

The motor power exerted in natural parturition is of a mixed kind, being in part *voluntary,* partly dependent on *emotion,* and partly *excito-motor.* Volition is generally exerted in the latter part of labour, especially in labours subsequent to the first, the voluntary effort being similar to the voluntary part of the act of defecation. In primipara little voluntary effort is made unless the patient has been mal-advised.

Emotion is chiefly of importance as *modifying* reflex motor action. It is matter of experience that confidence, hope, fear, anger, or despair, may either increase or diminish the voluntary and reflex actions concerned in parturition. The motor forces dependent on *emotion,* and on the *will,* are intended to be *accessory,* but they are not *essential,* to the exbulsion of the child. The evacuation of the gravid uterus can be performed perfectly by reflex motor action alone, as a function of the true spinal system. Delivery may take place during the coma of puerperal convulsions, during sleep, paraplegia, or even after the death of the mother, when the functions of the cerebrum are either suspended or annihilated.

It may be stated briefly that labour consists of positive dilatation of the os uteri and the vagina, the action of the muscles of expiration, and contraction of the uterus and the vagina; all excito--motor phenomena, which are *aided* by volition, and *modified* by emotion.

To give the proofs that the act of parturition is excito-motor:—

1. The abdominal segment of the dragonfly lays eggs after its separation from the other part of the body of the insect.

2. If the border of the cloaca in the hen be irritated with a few grains of common salt,

parturient action is excited, and the egg expelled.

3. Irritation of the os uteri produces abortion by inducing contractions of the uterus.

4. The coal water douche upon the abdomen excites contractions of the uterus in uterine inertia and in uterine hæmorrhage.

5. But the most positive and conclusive proof, and one which can alone be accounted for on the principle of reflex action, is the fact recognised by experienced accoucheurs, that the application of the child to the breast excites distinct uterine contractions.

6. Equally conclusive, if proved, is the reflex action between the stomach and the uterus. It has not been noticed hitherto as such, but I believe that irritation ofthe gastric division of the pneumo-gastric nerve during labour excites distinct uterine contractions. This subject I propose to treat of in a separate paper.

I reserve, too for another occasion, the inquiry into the immediate causes which give to the nerves and muscles of the uterus, and the other parts concerned in the expulsion of the fœtus, the tendency to be excited in such manner as to produce labour at a particular time; and shall now proceed to examine the phenomena of excito-motor action as they acturlly occur.

In the present place I insert a division of natural labour into three stages, in accordance with the physiological action of the parts engaged in the act of parturition. My readers will be enabled to judge, from the argument that follows it, of the propriety of such an arrangement.

First Stage.

Dilatation of the os uteri. Commencement of the dilatation of the vagina. Contraction of the fundus and body of the uterus.

Second Stage.

Closure of the glottis. Closure of the cardia. Forcible contraction of the muscles of expiration. Contraction of the uterus. Complete dilatation of the vagina.

Third Stage.

Closure of the glottis. Closure of the cardia Contraction of the muscles of expiration. Contraction of the uterus. Contraction of the vagina. *Probable* contraetion of the levatores ani. Dilatation of the sphincter ani.

For some days before the accession of the regular pains which are recognised as constituting labour, the fundus and body of the uterus contract upon its contents in an equable and continuous manner, so as to force the head of the child low down into the pelvis, and thus the patient's size is considerably diminished. This contraction of the uterus is caused by the presence of the fœtus. The same kind of unintermittent contraction is observed in certain labours where, in lieu of regular pains, the uterus remains for many hours firmly contracted round the fœtus without any remission. In consequence of this kind of contraction, and the gradual disappearance of the cervix uteri in the latter months of pregnancy, the head of the child becomes placed directly in contact with the os uteri, the portion of the uterus most sensitive.—in fact, most *excitor* of all the parts concerned in parturition. At the same time, or nearly so, that the fundus and body of the uterus contract, the os uteri commences its dilatation.

I do not, on the present occasion, attempt to decide how much of this continuous action of the uterus, which precedes, and mingles with, the regular pains of labour, is dependent on the direct action of the *vis nervosa;* or, in other words, on the irritability of the contractile fibres of the uterus. Nor shall I attempt to define the modifications of true spinal action produced by the development of the ganglionic nerves of the uterus during pregnancy, as described by Dr Lee. The continuous and periodic contractions ought to be arranged under different heads, and we must probably attribute the periodicity of uterine action to the influence of the ganglionic system.

When labour has actually commenced the whole internal surface of the uterus, the cervix and os uteri, and the vaginal passage, are in high degree excito-motor. The incident spinal nerves proceeding from these parts are the principal excitors of the reflex actions in natural labour. Impressions on any part of their extensive surfaces produce reflex-motor action in the uterus itself, or in the other muscles associated with this organ during parturition.

The motor phenomena of labour are, as I have already stated, of two distinct kinds, namely, *contraction* and *dilatation.* Contraction of the uterus and of the abdominal and other muscles, so as to increase the action of the uterus, and dilatation of the outlet of the uterine cavity and the whole vaginal passage, to permit the exit of the child. Subsequent to the dilatation of the vagina, contraction of this part occurs to expedite delivery; I proceed, in the first place, to treat of the mode in which the dilatation of the parts is affected—a novel and important subject.

Positive Dilatation of the Os and Cervix Uteri, and of the Vagina, during Labour.

Accoucheurs have noticed, as remarkable facts, that for some time before the accession of labour and during its first stage, the os uteri is sensibly dilated, and that the vagina dilates long before the mechanical pressure of the head of the child can possibly have had any share in the process. No satisfactory attempt has hitherto been made to explain these curious phenomena. The study of reflex-motor action appears to afford a clue to the solution of the difficulty, and to point out the source of the discrepancies of midwifery writers on this point.

Let us examine other physiological actions which resemble the dilatation of the vagina and os uteri. We may observe that in the process of defecation, at the same time that the abdominal and other muscles contract so as to lessen the cavity of the abdomen (and thus exert pressure on the rectum, which has besides its own independent contraction) there is a *positive dilatation* of the *sphincter ani.* The fæces could not, in fact, be extruded unless the sphincter opened during the instant of the action of the other muscles. This positive dilatation takes place in the involuntary action of the bowels, when it is purely a reflex act, or the sphincter may be dilated by a voluntary effort. Thus, what do we direct in the severe pains produced by the impaction of internal hæmorrhoidal tumors within the contracted sphincter ? We recommend the patient to strain as if at a stool, and immediately the sphincter dilates, the tumor may be returned and the pain departs. The old explanation of this action of the sphincter was that the longitudinal fibres of the rectum dragged the sphincter open by their contraction, though the sphincter is infinitely the more powerful of the two.

Dewees, Sir C. Bell, and Rigby have thus explained the dilatation of the os uteri. The latter says, "it does not dilate merely by the mechanical stretching which the pressure of the membranes and presenttng part exert upon it; it dilates in consequence of its circular fibres being no longer able to maintain that state of contraction which they have preserved during pregnancy; they are overpowered by the longitudinal fibres of the uterus,which, by their contractions,pull open the os uteri in every direction." There is here no recognition of the *positive dilatation* of the cervix uteri for which I am contending. Dr. Ramsbotham, though he perceives the fallacy of a mere mechanical distention of the os uteri is exceedingly vague in his explanation of the matter. His words are, "Some physiologists would teach us to believe that dilatation in labour is *entirely a mechanical act;* that, as the uterus contracts, it propels the head first through the os uteri, by dilating it mechanically, then through the vagina, and lastly, through the external parts, solely by the same forcible distention. It is evident from the structure of the organs that a mechanical dilatation to such a great extent never could take place unless a corresponding disposition to relax were given them at the same time; therefore we must consider the dilatation of the passages *not entirely dependent on mechanical distention,* but that it is in great measure to be referred to that institute of nature which induces them to become relaxed and softened when the uterus is about to commence contraction." The "disposition to relax" is a *positive dilatation*, the "Institute of nature," the reflex-motor function, now first applied to this subject.

To give another illustration. In the case of deglutition, the act of swallowing consists of contraction of the constrictors of the pharynx, with a simultaneous dilitation of the cardia. The cardia *dilates* to receive the food in deglutition, while in defacation it *contracts*, otherwise the contents of the stomach would be expelled at the same time with those of the rectum. The dilatation and contraction of the cardia may either depend on reflex action or on volition. In swallowing, in defacation, and in vomiting, the action of the cardia is purely excito-motor; but there are many persons who can voluntarily open the cardia so as to allow of the passage of gas from the stomach to the pharynx. Some can even imitate the ruminants, and return the food to the mouth in the same manner.

To apply these physiological facts, all of which are entirely deduced from the researches of Dr. Marshall Hall into the physiology of the true spinal system, to the explanation of the process of parturition :—

It has been already remarked that before the commencement of actual labour the os uteri sensibly dilates and softens. The dilatation at this time can neither depend on any expulsive force brought to bear against it, nor on any contraction of the longitudinal fibres. It is confined to the os uteri, and must be essentially positive. It is also without doubt reflex in its nature, closely resembling the opening of the cardia from the presence of food in the pharynx, though it takes place in a more gradual manner. The whole of the uterus is composed of the same contractile tissue, and let us observe what would be the result if the whole organ contracted at the same time.—The fundus and body of the uterus would contract, and undoutedly the os uteri would close firmly if there were any contraction of the circular fibre. Let those who think the body and fundus of the uterus could overpower the contraction of the os uteri, consider for a moment that the united force of all the respiratory muscles is sufficient to force the small muscles which closes the glottis.

During the recession of a pain the os uteri is in some degree closed, even when its dilatation has considerably advanced. There is an alteration of action in the two parts. When the expulsive pain comes on, and the head of the child is pressed downward by the contraction of fundus and body of the uterus, at this moment the os uteri is most widely opened. In fact, this dilatation during a pain is held to be a diagnostic mark of the true labor-pain. If the uterus contracts forcibly without any distention of its mouth, the pains are said to be false. Nothing can be more conclusive than this as evidence of *positive dilatation.*

Thus, then, we have a simple physiological explanation of the opening of the os uteri previous to the commencement and during the continuance of uterine contractions. This function continues throughout the process of natural labor, under the influence of reflex-motor action, and is a beautiful provision against the rupture of the uterus.

The *dilatation* of the vagina before the head has passed through the os uteri, frequently considered the result of pressure or *passive* dilatation, is of the same *positive* kind. It is one part of the concatenation of events by which delivery is effected. At the same time that active contractions are going on in the uterus, a *positive dilatation* is going on in the passages through which the fœtus has to be expelled. When the second stage of labor has commenced, and the abdominal muscles are acting forcibly, this dilatation of the vagina is increased by the effects of mechanical pressure. I shall have to revert to this point hereafter. The dilatation commences at the os uteri, and gradually proceeds downwards to the vulva; but in its whole course it distinctly precedes the mechanical pressure of the child upon the parts.

On a future occasion I propose to examine whether there is not during pregnancy, in addition to the constrictor vaginæ, a development of the cellulo-fibrous sheath which envelops the vagina, and which, at its upper part is continuous with the fibrous structure of the uterus; similar in kind, though not in extent, to that which takes place in the uterus. We know that in the early months there is contraction, but afterwards a dilatation and even protrusion of the vagina; and during labor not only is its diameter increased, but its length gecomes greater. These would form *a priori* reasons for believing in the growth of the part, but during labor the contractile power of the vagina is also considerably increased. The exclusion of the placenta by the action of the vagina alone, is a proof of this.

Excito-motor Action of the Uterus.

The action of the uterus is usually periodic, consisting of intervals of contraction and relaxation. The fœtus is the natural stimulus of the uterus, but all the reflex acts which constitute labor may be excited by any other irritation of the uterus; such for instance, as the presence of polypus or hydatids. I have known the uterus ruptured by the violence of its own contractions when thus excited. The power of irritation of the mucous surface of the uterus to produce reflex action of the organ, is seen when the hand of the accoucheur is introduced in the operation of turning. The introduction of the hand to promote the exclusion of the placenta, or to arrest hæmorrhage, by causing contractions of the uterus, are other familiar instances of excito-motor action, though they have not been accurately recognised as such.

The os uteri is an excitor of reflex action to a greater extent than any other part of the uterus. The pains of labor are more violent when the head of the child is pressing on the os uteri, or passing through it, than they are before. It is well known that if the membranes are broken early, and the water evacuated so as to permit the head of the child to press on the os uteri, the pains are much increased in severity and frequency, though the labor is often tedious in consequence of the motor force being expended in the evacuation of the amniotic fluid. It is on this principle that premature labor is induced by perforation of the os uteri. Some obstetric authorities have recommended the introduction of a plug into the upper part of the vagina, so as to irritate the os uteri, as a mode of procuring delivery in certain cases. Very recently it has been observed that even the *ballottement,* if rudely performed, is sufficient to cause abortion.

In natural labor the presence of the child only excites the action of the uterus itself during the first stage of labor; no other motor effort of an expulsive kind takes place, either voluntary or reflex. Those cases must be considered complicated in which the muscles of the abdomen are excited to contractions, or in which spasmodic actions of other muscles occur in this stage.

The Excito-motor Actions caused by the presence of the Child in the Vagina.

When the second stage of labor, as it is termed, has commenced, and the head of the child has entered the vagina, the muscles of the respiratory system become powerfully excited, in addition to the action of the uterus. Accoucheurs have held the most contradictory opinions concerning the muscular efforts made in this stage of labor. Many look on the extra-uterine contractions as entirely voluntary, while others hold exactly the contrary opinion. Thus, Dr. Ramsbotham says that "the auxiliary muscles which assist the uterus in its contractions are, in a great degree, voluntary." Dr. Lee, on the other hand, is of opinion that there ought to be no voluntary action in parturition. I would maintain that the greater part of the extra-uterine muscular action is as purely excito-motor as that of the uterus itself, though patients frequently mix up voluntary exertions with the true reflex actions, so as, in some measure, to confuse them. It will, however, be found that during a severe pain they have no power to arrest the contractions of the abdominal muscles, though they can increase their intensity by an effort of the will.

That the action of the respiratory muscles is involuntary and reflex, I have no doubt, and I may here instance an illustration of the wisdom of such an arrangement. If the tremendous efforts made by women in labor, often for many hours successively, were voluntary, they would necessarily produce excessive fatigue; whereas Dr. Marshall Hall has shown that the reflex motions are of greater energy than the voluntary motions, and continue without causing the same degree of weariness. It is perfectly wonderful to see delicate and emaciated females, with little muscular strength, after twenty-four or thirty six hours of severe labor, appear calm and refreshed immediately their delivery is accomplished.

During the severe pains produced by the presence of the head of the child in the vagina, the glottis is *closed*, so as to fix the chest, and the cardia and sphincter ani are also *shut*, while all the respiratory muscles are acting as in forcible expiration. Closure of the glottis is an important feature; but in severe pains, it is as perfectly involuntary as it is in deglutition, in vomiting, or even in epilepsy. When the glottis is closed, the patient by voluntary effort, assists in fixing the chest by grasping with the hands and planting the feet against some fixed body. Dr. Ramsbotham supposes that the diaphragm acts during the expulsive effort. A moment's consideration will show the fallacy of this. The action of the respiratory muscles, those of the glottis, the intercostals, and the abdominal muscles, is that of forcible *expiration* with the glottis closed. Now, the diaphragm is the great muscle of *inspiration*; it can only act in filling the chest. During the parturient efforts it must, therefore, be in a state of relaxation floating between the cavities of the thorax and abdomen, so as to render them, in effect, as one, precisely as in vomiting.

These, then, are the true distinctions between the first and second stages of labour. In the first the excito-motor action is confined to the uterus, or nearly so; in the second it is more extensive. The only obstetricians whom I can discover to have held any thing approaching to this opinion are Wigand, and after him, Dr. Rigby; but they refer to *mere* sympathy between the vagina and the abdominal muscles. Dr Rigby is the most explicit. He considers "there is the same relation between these muscles (the abdominal) and the vagina, as there is between them and the rectum." Dr. Rigby is, however, silent about the more extended muscular actions excited through the vagina, and their excito-motor nature. On the other hand, Dr. Fleetwood Churchill, one of the most recent writers on midwifery, expresses himself thus: "It is not easy to explain the change in the character of the pains, nor why straining should only occur in the second stage. Wigand attributes it to the sympathy between the abdominal and other muscles. *It certainly cannot be merely owing to the presence of the fœtal head in the vagina.* "Besides the support afforded to the uterus in the parturient process, by the action of the expiratory muscles, it is of essential service in another mode. While the irritation of the vagina excites the action of the abdominal and other muscles, the straining thus occasioned tends to dilate the vagina itself. This seems the most probable explanation of the mode in which the *positive* dilatation of the vagina of which I have spoken, as independent of mechanical pressure, is chiefly produced. Women can themselves feel, even before the head has entirely descended into the vagina, that at each pain there is a straining, a sensation of muscular effort, in the vagina itself. Manual examination demonstrates that in the first, and more particularly in the second stage of labour, this action is dilatation, and not contraction.

In the first stage of labour, when the head of the child is wholly within the uterus, and the reflecto-motor action is confined to this organ, the patient is generally timid and irritable, manifesting considerable impatience of her sufferings and alarm for the result But when the second stage has commenced, and the descent of the head into the vagina calls the respiratory muscles into action, the woman is no longer irresolute. She exhibits a remarkable change from timidity to confidence and determination. In the one case her cries are frequent and distressing, in the other she remains silent, or, at most, only a slight cry escapes her on the subsidence of a pain. Yet her sufferings in the latter are equally acute. Her silence may be said to depend on the closure of the glottis, but the change of mind is evident in her whole physiognomy. Dr. Marshall Hall has shown, that whatever may be their seat, the manifestations of passion and emotion, are invariably made through the medium of the true spinal system; and it is remarkable that the purely involuntary, or reflex-motor efforts, made in the second part of labour, exactly represent the change which has taken place in the mind of the patient. The involuntary and reflex workings of the muscles of expression are precisely those which would be called up to pourtray the most intense degree of mental energy and resolution. I am not here attempting to place these facts in the relation of cause and effect, but merely marking their coincidence.

When the dilatation of the os uteri, the vagina, and the external parts is accomplished and while the respiratory system and the uterus unite in energetic contraction, a new series of actions commence and facilitate the final expulsion of the child and afterwards of the placenta. This though an innovation I have ventured to call the *third* stage of labour. It consists of contraction of the vagina itself; retraction of the perineum over the head of the child, assisted probably by contraction of the levators ani, and dilatation of the sphincter ani, which in the previous stages remains closed. The head of the child is generally expelled with considerable force at once, but the trunk remains for a short time, if allowed to do so, in the vaginia. I believe that when in this situation it has, in great measure, escaped from the action of the uterus, and is expelled by the contractions of the vaginia. It is well known that when the placenta has descended into the vagina, it has the power of excluding it without assistance. Indeed, Denman recommends that this practice should be followed in order to diminish the intensity of the after-pains. This action of the vagina would certainly favour the idea of the development of its fibrous covering during pregnancy, as its contractile power is very slight in the unimpregnated state.

In certain cases, irregular, or as they have been termed, metastatic pains occur, and prove embarrassing to the practitioner, and are a real impediment to the progress of labour. They sometimes affect the bladder, at other times the abdominal muscles, but not synchronously with the uterus; or the rectum, the thighs, and other parts, the uterus being either little or only irregularly affected. They are generally dependent either on the *vis nervosa* being reflected from the uterus in irregular arcs, or the irritation, instead of proceeding from the fœtus, is caused by fatigue, general irritability, a loaded state of the stomach, the rectum, the large intestine, or the bladder, according as the case may be.

TABLE OF THE ACT OF PARTURITION IN FIRST STAGE.

I.

The Excitors.

The incident nerves proceeding from the inner surface of the uterus, particularly the os and cervix uteri.

II.

The Centric Organ.

The medulla spinalis.

III.

The Motors.

1. The motors which *contract* the fundus and body of the uteris.
2. The motors which *dilate* the os uteri and the vagina.

TABLE OF THE ACT OF PARTURITION IN THE SECOND STAGE.

I.

The Excitors.

1. The incident nerves proceeding from the inner surface of the uterus.
2. The incident nerves proceeding from the vagina.
3 In numerous cases the gastric branches of the pneumogastric and the incident nerves of the rectum and bladder become excitors of parturient action. It remains to be decided whether these facts should be classed with physiological or pathological phenomena.

II.

The Centric Organ.

The medulla oblongata and spinalis

III.

The Motors.

1. The motors which *close* the glottis.
2. The motors which *close* the cardia.
3. The motors which *contract* the uterus.
4. The motor nerves of expiratory effort.
5. The motors which *dilate* the vagina.

TABLE OF THE ACT OF PARTURITION IN THE THIRD STAGE.

I.

The Excitors.

The same as in the previous table.

II.

The Centric Organ.

The medulla oblongata and spinalis.

III.

The Motors.

1. The motors which *contract* the vagina.
2. The motors which *dilate* the sphincter ani

3. The motors which *contract* the levatores ani.
4. The rest, the same as in the previous table.

The foregoing does not pretend to be more than a sketch of this interesting and hitherto unattempted subject. Future opportunity and observation will, I trust, enable me to fill up and correct this imperfect outline, and draw numerous practical deductions from the facts I have detailed. Now that the physiological *principle* which presides over the function of parturition, which Denman and others anticipated, is discovered to be a part of the function of the true spinal marrow, of the principle which presides over all the acts of ingestion and egestion:—the detection of which we owe to Dr. Marshall Hall, though the profession has been tardy in appreciating its importance, or I should not at this late period, twelve years from its discovery, be engaged in the first attempt to apply it to the whole obstetric art; now that this principle is recognized, the entire phenomena of natural pregnancy, from the act of conception (itself excito-motor) to the return of the uterus after delivery to the unimpregnated state, inclusive with many other cognate subjects of equal importance, must inevitably be treated of as the physiology of the uterus, and as one branch of the physiology of the true spinal system.

Bolton-street, Piccadilly, May, 1844.

THE PERIODS

REGULATING THE RECURRENCE OF VITAL PHENOMENA.

Being a General Summary of Previous Contributions to Proleptical Science.

By Thomas Laycock, M. D., Physician to the York Dispensary.

The communications I have made to THE LANCET from time to time on the laws of periodicity, as exhibited in the recurrence of vital phenomena, have been published at considerable intervals, and extend into two or three volumes. I have thought it would be well to give the readers of my previous papers such a general view of the whole as may assist them in appreciating the importance and extent of the subject, and guide them in any further remarks they may be inclined to make.

While it is the prerogative of reason to look both "before and after," man has always manifested the most earnest desire to look before and know the future. Two means have been adopted, in all ages, to attain this end, namely, divination, or the consultation of supernatural beings, real or supposed; and the observation of natural phenomena, and of the times of their recurrence. It must have been soon found that there was a regularity in the latter. Day constantly followed night, and night day; spring succeeded winter, and summer succeeded to spring; the ebbing tide changed into the flood, and the flood-tide fell to the ebb. And so, also, with physiological phenomena; the infant grew into youth, the youth became a man, and manhood sunk gradually into the decrepitude of old age. Hence, man has learnt to predict a variety of events in nature and society with absolute certainty. He knows that the storms of winter will surely pass of way and be succeeded by the warmth a-spring; that the flood tide will assuredly, in a few hours, be at ebb; and so, also, with a variety of phenomena implicating the individual, as the duration of pregnancy, the recurrence of the hour of sleep, &c. Now, all natural phenomena being finite, must be periodic, because the time within which they are circumscribed is itself a period and capable of division into less periods. The science which investigates the laws of recurrence of events involving individuals and societies of men, measures their periods, and applies the knowledge thus obtained to practical uses in connection with the sciences of medicine and of political and social economy, is the science which I have termed PROLEPTICS,—an anticipation, to anticipate, seize before.—Proleptics, then, is the science of anticipating events.

Of course the science of proleptics recognises no mysterious or supernatural agency more than is recognized in astronomy, or any other natural science; it is founded altogether on the observation of phenomena, with special reference to the order in which they arise. That order may be ascertained by pure observation, or may be calculated from principles and laws already known, or may be inferred from the relations of cause and effect

In predicting proleptically the return of an ague-fit we are guided by pure observation; from this source we know that if the fever be a quotidian the febrile paroxysm will return next day, at the same hour, as surely as the sun will rise after having set, and we anticipate it accordingly. In like manner we know that in a malarious district we may expect to have bilious remittents in summer, quotidians and tertians in spring and autumn, and quartans in winter.

Proleptics is not limited to periods of any particular duration; it applies itself alike to periods of hours or of thousands of years.—

It is within its provence to investigate the changes induced in the earth and in society at the completion of grand cycles, as well as the changes induced during a single revolution of the earth on its axis or round the sun. It concerns itself with all astronomical phenomena, because they are eminently periodic; it traces the laws of recurrence of cosmic and telluric changes with special reference to the influence of those changes on man, either as an individual or in society.—Proleptical science is not confined to circular phenomena, for it sees polarity and oscillatory movements in regularly recurring events. The impulse given to human society by an exoteric force, as, for example, when meteorological changes induce destructive epidemics, may continue long after the cause has passed away, just as a pendulum swings backwards and forwards after the hand that put it in motion is removed. What happens to societies will occur also to individuals.

It will be seen, from this brief outline, that proleptics, being eminently a practical science, hesitates not to draw its data from every available source. It watches the progress of geological science, that from what has happened it may deduce what terrestial changes will happen in future, and when.—It cultivates meteorology to find out the law of recurrence of meteorological phenomena, knowing how much the latter influence man's condition under all circumstances,—his health food, personal comfort, relief if diseased, or his social prosperity and progress. It considers man as a part of the great whole of organized beings, and seeks a knowledge of the laws of recurrence of vital phenomena in all nature, that it may apply that knowledge in administering to the relief and cure of man when sick, and to his comfort when well.

Having premised these explanatory observations I will subjoin a summary of the contributions I have made to the science. I would wish to observe, however, that these contributions were made principally with the object of placing it on a true foundation, and of constituting a nucleus round which future observations might be arranged. It will be seen, in reference to the paper alluded to, that I have divided periodic vital phenomena into three classes, namely, the exoteric, esoteric, and endexoteric, the first comprising those resulting from causes internal and proper to the organism; the second those resulting from causes external to and independent of, the organism; and the third those compounded of the two.

The esoteric series of periodic changes commence with conception and the first development of the ovum, and goes on until death,—the major periods involving and being constituted by the minor. They are marked by the evolution of the teeth in the embryo and fœtus, by the reproduction or shedding of the latter in infancy and youth, and by physiological changes recurring at larger intervals—the septenary periods—in after life. After birth the periods become, in a great measure, endexoteric, the exoperiodic influences coming then into operation, and complicating the esoperiodic changes. They are marked in animals by a variety of phenomena, and the periods are of diversified length, just as we observe in the recurrence of meteorological changes. The primary unit is a day of twelve hours, comprising one barometic maximum and one minimum. A tabular view will best illustrate the order of the minor periods, deduced from a multitude of observations.

I.—*The Esoteric and Exoteric Periods.*

1. Two minor periods, including a maximum and minimum . . . . . = A lunar, barometric, or meteorological day.
2. Two barometric or lunar days. = A solar day.
3. Seven solar days . . . . = A lunar week.
4. Four weeks . . . . = A lunar month.

II.—*The Endexoteric Periods.*

In marking these I shall take the periods of fevers as the most familiar example, although *all* periodic physiological phenomena illustrate them.

Let a = the barometric or lunar day.
Then a = the term of a bi-quotidian and of certain physiological acts.
$2a$ = the diurnal or quotidian period.
$4a$ = the tertian period.
$6a$ = the quartan period.

As in agues the *interval* is calculated from the beginning of one paroxysm to the beginning of the next, the unit of the second series must comprise the time occupied by the last paroxysm, as well as the period of intermission, so that we have $6\,a \bowtie a = 7\,a$, or one week of seven days of 12 hours; let b represent this period.

Then b = the half-week of physiological periods and the fourth day of fevers.
$2\,b$ = one week, and the seventh day of fevers.
$4\,b$ = fourteen days, a physiological period, and a critical day in fevers.
$6\,b$ = a minor menstrual period, and the limit of a "twenty one day fever."
$6\,b \bowtie 2b$ = the menstrual period, and its analogue in hæmorrhoidal and neurotic patients.

Thus, then, the minor periods may be considered to be multiples of four basic units.—1. The day of twelve hours; 2. The day of twenty-four hours; 3. The week of twelve hour or lunar days; 4. The week of solar days. If any of these be multiplied by 2, 3, or 4, or by 4, 6, 8, the products yield all the observed periods of menstruation, four weeks being the normal period. Of course the catamenial excitement is only indicative (as I have elsewhere shown,—Treatise on the Nervous Diseases of Women, p. 44,) of a nisus in the ovaria, and marks the period when an ovum or ova are expelled. In fact, the processes of generation and development display throughout the most striking examples of periodicity. Similar multiples give the periods of mixed fevers, the cycle of paroxysms observed in intermittents, gout, &c.

The preceding are the minor periods of development, the esoteric series commencing with conception, and so regularly on unless broken up, and a new series be begun, by some powerful influence on the system. It is by these periods that we can theoretically explain the period of incubation of contagious and epidemic diseases. It is by these, too, that we can understand the "singular coincidences" observed in families, as to death, time of sickening from contagious fever, &c., the period of conception of the mother being a common point to which the esoteric periods of the offspring can be referred in virtue of these periods being precisely alike as to the date of conception, and the circumstances of their life undergo similar vital changes at the same time, because they are equally exposed to the same exoteric agencies, and undergo the same series of esoteric changes. The coincidences of this kind have been attributed to animal magnetism, and adduced as a proof of the reality of the zoo-magnetic force.

The seasonal and annual changes and the period of utero-gestation and of fœtal life, are intermediate between the preceding and the major periods of development. The term of fœtal life is composed, both as regards the parent and offspring, of minor esoteric periods, consisting either of the week of seven lunar days, or the week of seven solar days, but generally the latter. The analogous process in insects occupies the whole life, from the vivification of the ovum to the imago state, and its minor periods are marked by the evolution of the animal from the ovum the successive moults, and the chrysalis state. This period of embryonic and fœtal life is of varying length in insects, reptiles, fishes, birds, and mammals, but is always a multiple of a lunar or solar day, and always heptal, or referrable to 7.

The intermediate periods above alluded to pass insensibly into the major, and the major periods complete the whole period of life.—The primary unit of the latter is a solar year, subdivided into four portions, by the equinoxes and solstices, which constitute two means, one maximum, and one minimum.—All the preceding have reference to the individual, and the minor have reference to the individual exclusively. The basic unit of years has, however, a bearing upon man, as constituting society, and is the unit limiting the periods of those esoteric causes which influence the spread and mortality of epidemics, and induce physiological mutations on a large scale, as well in man as in animals, and vegetables, through their action on the atmosphere, and the crust of the earth.

To recapitulate, according to the facts previously stated, the periods upon which others must be calculated are the following:—1. The barometric or lunar day; 2. The solar day; 3. The lunar week; 4. The solar week; 5. The lunar month; 6. The solar year, with its four subdivisions; 7. The week of years, or septenary period; and, lastly, the lunar cycle of eighteen years, with one maximum and one minimum. Probably others will be added to these, as, for example a lunar year, with five or six subdivisions, a large cycle of years, &c. I think, however, facts sufficiently numerous have been stated to point out those just enumerated, as the periods round which future observations should be grouped.

CASE OF OVARIAN DROPSY
In which
Tapping was performed Seventy-eight times.

By J. C. Atkinson, Esq.

Of late there has been much discussion on the subject of ovarian dropsy or tumour; some practitioners contending for the extirpation of the diseased ovary and others for palliative and constitutional measures, as less likely to endanger the patient's life. The following case will go some way to prove how often the operation of paracentesis abdominis may be performed without in any way interfering with the ordinary duties of domestic life, or its enjoyments. The subject of the present paper was always prepared, five or six days after tapping, to go about her usnal avocations with cheerfulness, and to frequent places of amusement, and this she preferred to leading an inactive life.

Mrs. Herapath, aged fifty-three, of Johnson-street, Westminister, came first under my care in the latter part of 1836; she had previously consulted medical men of authority, and had followed their prescriptions, but with no diminution of bulk. Eventually it was thought advisable to tap her, and from that time till May last she had been operated on no less than *seventy-eight times*, by me *seventy-two times*. The fluid at first abstracted was grumous, opake, and highly charged with albuminous matter,as proved by the common test and the quantity averaged about *six gallons.* For the last twenty times the fluid had been nearly one-half less, its specific gravity considerably diminished, nearly colorless and transparent, and almost wholly void of albumen; and I would observe that her health seemed to have been better when the quantity of discharged albumen was larger. I must here remark that the treatment employed by me to moderate the effusion of the liquid in the ovarian sac,—acupuncture, friction, diuretics, mercurials, pressure, change of air,—were one and all attempted at various times, according to circumstances, but with no definite results. There was an interval of nearly five months from the first operation to the second; from this to the last the period gradually lessened, till three weeks were as much as it was possible for the patient to endure the distention of the abdomen; and owing to the great inconvenience in the epigastrium, and the constant rejection of all food, it was found imperatively necessary to evacuate the fluid at the above mentioned period.

The part of the abdomen commonly selected by me for the operation of paracentesis abdominis was midway between the umbilicus and the os pubis, and the area within which it was performed was six inches by four, supposing the length to lie between the iliac bones. From experience of its propriety I always carefully avoided wounding the external epigastric arteries or veins, and through this precaution much of the hæmorrhage which usually follows the incision of the lancet was prevented, and which, on several occasions at first, entailed on the patient needless fatigue and faintness.

On the post-mortem examination it was found that the left ovary alone was diseased, enlarged, and full of cysts, about an inch in length, and filled with gelatineous matter the right being in its normal condition The abdominal viscera generally were healthy, and the only cause of her death, in my opinion, appeared from mechanical obstruction offered to the food by the rapidly-accumulating fluid, and the excessive exhaustion consequent thereon. There was great emaciation of the whole body. The weight of the tumour was five pounds, and perfectly unattached. At a future time I will enter more minutely into the comparitive value of the plans of treatment pursued in this case.

Romney House, Westminister.

"New Magnetic Fluid."

M. M. Thilorier and Lafontaine have presented to the academy a memoir containing the result of a series of experiments which they have lately made, and which, they say, establish the existence of a new imponderable fluid. This fluid, which they call *nervous*, is classed by them between electricity and magnetism. M. Arago has undertaken to go through the experiments with the authors, and to report on them to the academy. The experiments quoted were made with a galvanometer.—*London Lancet.*

The smallest wonders in science are so thankfully received in Europe by the grasping multitude who have to depend upon a certain school of *savans* for a supply, that the latter are induced to resort to every species of ingenuity to furnish it. They will take old discoveries, "familiar as their garters" and, with scarcely a change of pattern, envelope them in new pretensions, label them with new names, and pass them off as profound and invaluable originalities! "*A new Magnetic Fluid!*" Why not discover a new kind of day light? "*A new Nervous Fluid!*" Why not announce an entirely new sort of blood, in the whole ancient creation?

It seems extraordinary that professional men, of the slightest claims to character, should descend to such puerilities, and scarcely less so that any work of reputation should announce them, unaccompanied by ridicule. There cannot be a man of science, or even of general reading, in the whole civilized world, really ignorant of the fact that the magnetic influence, in some modification or other, has long been adduced by a host of experimenters, in almost every country, as the influence (clumsily called "fluid") which operates upon the nervous system, and endows it at once with sensibility and motive power. The claim is at least as old and as notorious as the demonstrations of Galvani, and while it has been maintained by innumerable applications of electricity and electro-magnetism, the abstract identity of every form of magnetism, called electricity, and electro-magnetism, with the old and simple forces of metallic-magnetism, is now scarcely disputed. Yet these learned Frenchmen crown themselves with wreaths and plumes for having ascertained the existence of this nervous fluid by the ordinary galvanometer! They say it is neither electric nor magnetic, but something intermediate.—Since they discovered it by the galvanometer, perchance it is galvanic!—and if they should pursue their discovery to this brilliant conclusion, they may next favor us with a luminous distinction between the three "fluids" here contending for the honor of their patronage.

It is well known that, for more than thirty years, the Editor of this Medical Journal has pursued a system of practice based entirely upon the fact, more clearly understood and explained, which these gentlemen have now the excessive modesty to submit to the world as a recent discovery of their own. We have asserted, exemplified, and demonstrated it, in various distinct works upon the subject, of which tens of thousands of copies have been circulated in this country and in Europe. It has been diffusively illustrated in every number of this Journal, which is read both at home and abroad; and for the most overwhelming proofs of this fact, collected within brief limits, we need only refer the reader to the masterly "lecture on the magnetism of the human body," by Professor R. W. Gibbs, M. D., of South Carolina, published in the 2nd and 3d numbers of this Journal.

MESMERISM.

A Young Lady of this city was magnetized a few evenings since by a young gentleman who had very little knowledge of the art, and after exciting the organs of combativeness, destructiveness, self-esteem, and firmness, at short intervals during an hour and a half, he attempted to awake her, but his success was only partial. He could not awake these organs, or calm the storm he had raised; for she continued the pugilistic exercise of her arms through the night. The next morning she was induced to accompany a young Lady to our office for the purpose of trying the power of the Rotary Magnetic Machine upon her. On an examination of the case we found the spasmodic actions of her arms very strong. The positive button was then placed on the back of her neck, and the negative held in her hand under the full power of the Machine during a few minutes, but it produced little or no effect upon her. A clairvoyant happened to come in at this time, and we instantly put her into the somnicient state, and directed her attention to the young Lady, when the Clairvoyant placed her hands on the same organs in her own head, and observed that the brain appeared to be diseased in those places; and when we inquired how diseased? she observed "the brain looks darker, or higher colored in these places."

Her magnetiser at our suggestion now attempted to put her other organs to sleep again, but failed. On the evening of the second day after she was mesmerised, the spasms of her arms were observed to be less violent, and on the third day they disappeared.

INFLUENCE OF OPIUM ON THE CATAMENIAL FUNCTIONS.

Dr. M'Cune Smith records in the *New-York Journal of Medicine*, five or six cases in which the habitual use of opium seemed to cause a suspension of the menstrual functions, without producing constitutional disturbance. He hence infers that its use is indicated when such effect is required.

ON THE INORGANIC CONSTITUENTS OF PLANTS.

By Drs. H. Will and R. Fresenius.

In pursuing the investigations sketched out in his works on Animal and Vegetable Physiology, Professor Liebig has entrusted to the able hands of his assistants in the Giessen laboratory the task of devising a method for the qualitative and quantitative determination of the inorganic constituents of vegetable substances. The question to be determined is what are the essential, indispensable ingredients and what are the substances which, being present in the soil, enter into the organisms of plants, and are left in the ashes, and yet are unnecessary to the vital processes of the plants ? In order to obtain an answer to this question which shall be satisfactory to the physiologist and the agriculturist, analyses must be made of the acids of plants grown under every variety of circumstance and condition. Before these analyses could be made it was very desirable that a method, simple and sure, should be in the hands of chemists, and as a preliminary to the interesting investigations into the ashes of particular plants and parts of plants in which Drs. Will and Fresenius have been engaged, they have presented such a method to chemists. The following is an abstract of this valuable paper:—

" The analysis of De Saussure and others, inasmuch as they were not in possession of means sufficiently accurate to determine the quantity of many elements present, are no longer trustworthy De Saussure first pointed out the necessity for such investigations, and Berthier discovered that the composition of the ashes of plants depends in a measure upon the properties of the soil, but while the latter found that the ashes of the same kind of wood grown upon different soils varied, he also discovered that the ashes of different kinds of plants grown upon the same soil are dissimilar, and that plants, either of the same or related species, when grown upon the same soil, yield ashes either identical or very similar.

Plants take up all the soluble constituents of the soil, but to subserve their vital processes they select the suitable materials, so that vegetable organisms take up and appropriate the necessary elements. Hence in analysing ashes, substances will be found which have not entered into the composition of any organ or part of the plant, but are only accidentally present in the juices ; we cannot, therefore, prevent such matters from being found in the ashes, together with that capable of assimilation.

Nature has provided in the seeds of plants as in the eggs of birds, and the milk of animals, every thing necessary for the development of the infant being, so long as it is incapable of deriving its sustenance from without. The indispensible mineral food of plants, therefore, will be found almost pure in seeds.

The ashes of the seeds of the *cerealia*, the *leguminosæ*, the *cruciferæ*, and the *coniferæ*, consist almost exclusively of phosphates of the alkalies and earths, with variable quantities of silicia and sulphates. But these ashes do not effervesce with acids, and contain only mere traces of chlorides.

The ashes of the seeds of *the oak*, the *chesnut*, and other trees, of which the seeds abound in starch, but contains no fat, effervesce strongly with acids. They contain a large proportion of carbonates which have been formed during the combustion, from salts of vegetable acids, and they contain also phosphates. The amount of chlorides, silica, and sulphates, is very small in these ashes.

From these facts it must be concluded that the alkaline and earthy phosphate are indispensible to the *cerealia*, and that the oak and the chesnut require, besides these phosphates, alkalies and earth not combined with mineral acids.

It is not possible at present to distinguish between essential and non-essential constituents of ashes. Various mineral substances and variable amounts of them are required by plants during the several stages of their growth. Nothing found in the ashes of plants can be deemed unessential, but we can distinguish between those constituents which have been already assimilated by the plant and those which exist in its juices unassimilated. Some of the latter, however, only await the further progress of growth in order to subserve their proper purpose. Thus, alkaline chlorides and sulphates, are always present in ashes ; they always exist as soluble compounds in vegetable juices ; they do not themselves enter into the composition of the organs, but they yield some of their elements. The bases of the salts of vegetable acids are probably derived from chlorides, the latter being decomposed. But their electro-negative element being unimportant, these chlorides may probably be replaced by other compounds of the same bases, provided the latter be equally soluble, and not injurious to the vital textures of the plant. The quantities of chlorides are very variable, and this without their being replaced by any other substance ; they are, therefore, probably unessential. The quantity of sulphates found in the ashes depends in some measure upon the preparation of the ashes. The sulphur of the nitrogenous constituents of the plant may, by a strong heat and free access of air, be converted into sulphuric acid during the combustion. On the other hand, an insufficient heat, with the subsequent addition of an acid, may evolve sulphuretted hydrogen. In order to make a quantitative analysis of ashes we must heat them until all the sulphurates are completely oxidised.

Carbonic acid and charcoal are generally accidental constituents of ashes, having their origin in the combustion. Some seeds, however, contain carbonates. The amount of carbonaceous matter and carbonic acid in ashes depends upon the nature of the bases present, and the degree of heat employed.

Bases.	*Bodies combined with Bases.*
Potass.	Chlorine.
Soda.	Iodine.
Lime.	Bromine.
Magnesia.	Fluorine.
Peroxide of iron.	*Acids.*
Oxide of manganese.	Silicic acid.
Alumina.	Phosphoric acid.
	Sulphuric acid.

All these acids and bases, except iodine, bromine, fluorine, and oxide of manganese, are found in almost all ashes of plants. Alumina is said by many chemists to be found in vegetable ashes. De Saussere states that the ashes of the bilberry, the pine, and the oleander, contain 17.5, 14.8, and 28.8 per cent. of alumnia, but he mistook the phosphates for alumina, because when he made other analyses to determine the amount of phosphates, he found no alumina, or only a trace. Pure alumina is insoluble in solution of phosphoric and carbonic acid. The phosphate of peroxide of iron found in plants which is equally insoluble with alumina, is probably taken up as phosphate of protoxide which is soluble in solution of carbonic acid. The traces of alumina found in ashes of plants, are probably derived from some adhering dirt not having been carefully removed previously to combustion. This, no doubt, also gives rise to the presence of sand.

In some parts of Germany grain is steeped in solution of sulphate of copper, in order to prevent blight; this accounts for the presence of oxide of copper in the plants; it may also be derived from the presence of salts of copper in the soil, but is only an accidental constituent of vegetable ashes.

A large number of analyses are necessary ere a classification of plants, according to the constitution of their ashes can be accurately made. For the present purpose they may be arranged into three groups.

A. *Ashes rich in alkaline and earthy carbonates;* to this belong woods, lichens, since these contain salts of organic acids.

B. *Ashes abounding in the phosphates of alkalies and earths*, as the ashes of seeds.

C. *Ashes rich in silica.* The gramineæ, equisetaceæ, &c., belong to this group.

This classification is not to be considered more than an approximation. The ashes of mistletoe (*viscum album*,) the ashes of the seeds of the oak, and chesnut contain both carbonates and phosphates. Those of *milium sativum* (millet,) oats, and barley, abound in silica, and might, with equal propriety be placed in either the second or the third class.

According to the beautiful law of substitution established by Professor Liebig the predominance of potass or lime in the ashes of a plant depends upon the bases existing in the soil. Tobacco would generally be considered to belong to the lime plants, but recent analyses, which are highly interesting in relation to the law of substitution, prove that when grown in a soil abounding in potass, tobacco would equally belong to the potass plants.

ROYAL MEDICO-BOTANICAL SOCIETY.

Thursday, June 27th, 1844.

Henry Cope, Jr., Esq., in the Chair.

After some discussion, a communication on the atropa belladonna, from Mr. Ley, was read.

In this essay, Mr. Ley endeavoured to point out that belladonna was not of so deadly a nature as its name, and the dread entertained of it by the profession and the public would lead one to suppose, and he quotes several cases to show that a fatal result rarely attends its ingestion. He observes that its effects are rapid and constant, therefore if understood, most highly valuable. The difficulty is in seeing and describing them so clearly that future observers shall recognise the same results from medicinal doses. For this purpose the variety of the observations recorded, and even the varieties of language in which the narratives are clothed, become useful information for future observers, to test and reject that which is least precise and perfect. In testing the medicinal influence of a medicine by which we seek to relieve pain, spasm, and irritability of system, and to procure sleep, its approximation to or secession from opium in its action on the system, will form a very good standard to judge of its effects, and tried by this test, Mr. Ley has found that the action of opium and belladonna is very similar. He has himself taken belladonna, and has given it frequently, in doses of from half a grain to a grain, and in describing its action, instead of saying that it diminishes sensation, irritability, and arterial action, in the first stage of its influence, he believes that it increases them all, and that the peculiar action of the remedy being exhausted, reaction takes place and its effects, to wit, diminution of sensation, irritability and arterial action follow. He observes, that soon after taking a grain of the extract, there is a peculiar taste in the mouth, and a diffused, novel sensation over the whole body, which excites the attention forcibly and unpleasantly. Saliva is secreted in diminished quantity. The nervous excitement becomes absolutely painful, with restlessness, and with the attempt to move, giddiness, with an affection of the cerrebrum, become evident. There is difficulty in swallowing, and the voice becomes hoarse; it is as if the action of the parts were impeded by great loss of the lubricating moisture of the mucous membranes. The sight is affected and indistinct, and the eye has the same sensation (perhaps of coldness) that is felt over the body The lids become dry, and the general sensation is similar to that experienced after long watching. Pain in the bowels may occur, and perhaps an evacuation may take place, but neither purging nor diuresis is caused by it. Sore-throat and redness of the skin, resembling scarlatina, is sometimes produced, and inordinate menstrual discharge may occur suddenly in females. The attention is so entirely absorbed by the peculiar sensation, and the irritability of system, that no pursuit can be followed; the eye can see, but is indisposed to maintain attention to the object, and the ear has sensation, and hears peculiar noises. The disposition to withdraw from all the excitements of passing influences becomes active, and the retirement-like weariness brings repose. In this stage of excitement Mr. Ley observes, it is not difficult to trace an increased arterial action approaching inflammation; and this being the first and immediate action of the remedy, we ought to reckon the rapid subsidence or evanescence of these effects among the virtues of the medicine. In Dr. Pereira's opinion belladonna is not fitted for plethoric constitutions, nor for febrile and acute inflammatory cases, in which Mr. Ley coincides, but he thinks it may be rendered so by combination with other medicines, or by preceding its use by blood-letting. It has been his habit, he says, to produce the excitement, and to allow the reaction to go on undisturbed for a day or two. He expects more benefit in the second or third day of inaction than from the immediate effect of the drug. In this way relief is experienced in scrofulous ophthalmia, in toothach. &c., when the state of excitement has passed away. A decided astringent effect is produced by the exhibition of belladonna in some chronic discharges from the mucous membranes, and the secretion in ulceration of the trachea is diminished, and the cough relieved by it; various vesicular eruptions on the skin is also removed by it, and when the contents of the vesicle have become semi-purulent, the true skin ulcerated, the ulcer being deep and devoid of healthy granulations, the edges being under the influence of the creeping vesicle, a single grain of the extract of belladonna will annihilate the eruption, and the ulcer will immediately assume a healthy appearance. This influence is well exemplified by that affection of the finger where the cuticle is raised by a semi-purulent fluid round the nail. The cuticle being removed the circle will still be enlarged by the separation of fresh cuticle, and the denuded surface pours out a copious discharge. The effect of one dose of belladonna is to dry the denuded surface, so that the disease no longer exists, and this is effected with so much rapidity as almost to seem like magic.

Mr. Ley quotes two cases from Mr. Liston's practice in University College Hospital, in one of which minute doses of belladonna cured an attack of erysipelas in two or three days; and in the other, a case of small ulcerations on the legs, aggravaied by a scald, and attended by much inflammation and fever, after the fever was subdued the belladonna also speedily effected a cure. In conclusion Mr. Ley adverted to the difference presented by the extracts as met with in the shops, and stated that he had found a scaly black, tobacco-smelling extract, most efficacious for external application. This, he considers, may be owing to the mixture of the fruit with the leaves, or to the adulteration of the extract with some other drug, and in that case he thought it would be advisable to try the adulterated drug itself.

ANALYSES OF BLOOD IN DISEASES.

Dr. Scharlau, of Settin, having sent to Professor Liebig some specimens of blood drawn from patients suffering from various diseases for the purpose of having their amount of carbon and hydrogen determined, Professor Liebig entrusted the investigation to Dr. Herman Hoffman. The specimens, as sent to Giessen, were inclosed in waxed paper, having been dried and coarsely powdered. They were examined by the usual method of organic combustion with oxide of copper, the following results were obtained.

		Ashes.	Carbon.	Hydrogen.
1.	Blood from a patient laboring under pneumonia which was drawn from the arm and exhibited a buffy coat (1st bleeding) . .	4.365	57.428	8.615
2.	Do. do another specimen (2nd bleeding)	4.081	52.280	——
3.	Do. another specimen (1st bleeding . .	3.880	51.966	8.543
	(2nd bleeding)	3.784	51.149	7.832
4.	Typhus	3.901	54.954	8.542
5.	Tubercular phthisis; no buffy coat	4.026	53.734	7.451
6.	Typhus abdominalis, fifth day; from the arm	3.209	50.901	8.925
7.	Do. do. second day, from the arm (1st bleeding)	3,108	54,184	8,493
	(2nd bleeding)	3,479	55,295	7,945
8.	Do. from the head	4,702	——--	——
9.	Do from the venacava	3,509	49.281	7,217
10.	Do. do. do.	3,960	45,575	7,897
11.	Do. from the aorta	4,184	——--	——

—*Liebigs Annalem.*

Tabular View of One Hundred and Eighty Cases of Tubercle of the Lungs in Childdren, with some remarks on Infantile Consumption.

By P. Hennis Green, M. B.

The author commences his paper by observing that the remarks appended to the tabular view are rather intended to point out a few of the peculiarities which distinguish infantile consumption from phthisis of adults, than to give any complete history of phthisis in the young subject.

The main character which distinguishes the phthisis of children from that of adults is this,—in children the tubercular deposit occupies a much larger surface of the lung, is more rapidly secreted, and complicated with tubercular disease of the organs more frequently than in the adult.

Having briefly described the varieties of tubercular deposit in the lungs of children, the author gives some statistical results relative to crude tubercle and caverns, as deduced from his table.

The complications of pulmonary tubercle in the child are numerous and varied. The author compares his own results with those given by M. Louis for the adult, and shows the proportion in which various other organs were affected with tubercular disease.

The symptoms are referred to two varieties, one occurring in children of from ten to fourteen years of age, and resembling the disease in adults; the other affecting younger children, and presenting several peculiarities. In the acute form of this latter variety the patient is often cut off long before the disease has arrived at the stage of cavern, while the widespread and rapid diffusion of tubercular deposit may excite in the head hydrocephalus, or meningitis; in the chest, pleurisy; in the abdomen, peritonitis; and in the intestinal canal, tubercular ulceration. In the chronic form of this variety the author remarks that the signs of cavern are very frequently absent altogether, and that this absence may depend on the seat of the cavity (middle or lower lobe,) or the small calibre of the bronchial tubes.

The author next examines, successively, the rational symptoms, and indicates the peculiarities which may attend each. With regard to hæmoptysis, he observes that it is not so rare a symptom as many eminent authorities assert.

The question of diagnosis having been discussed, the author concludes with a brief description of bronchial phthisis. The mechanical and physiological effects produced by the enlarged glands on the neighbouring tissues and organs are first pointed out; the symptoms are then indicated, and the author sums up with some valuable remarks relative to the diagnosis of its variety.

The author does not enter into the question of treatment, which he regards as merely palliative, but he states his belief that under favorable circumstances we have a much greater chance of arresting the progress of incipient tubercle in the child than in the adult.

The Society adjourned until November next.

On the Exclusion of the Atmospheric Air in the Treatment of Certain Local Diseases.

Some years ago I attended a fatal case of peritonitis. On a post-mortem examination I was struck with the florid red appearance of those parts of the intestines which were contiguous and adherent to the abdominal parietes, and the perfectly pale condition of those other parts of the intestinal canal which were contiguous and adherent to each other. Both surfaces were equally covered with a layer of rather opake and moderately-consistent coagulable lymph. I could only account for the difference in the appearance of these two portions of the same intestine by supposing that one was affected by the absorption of oxygen from the atmospheric air, whilst from the other this gas was excluded.

It is usual in the Parisian hospitals to trust the treatment of pleuritis greatly to the application of cataplasms. I confess that when I first heard of this mode of treatment I thought it trifling. I have since considered that these cataplasms may entirely exclude the influence of the atmospheric air, and thus prove of real efficacy. But whatever may be the *rational*, the fact remains as I have stated it, and where the treatment of pleuritis consists greatly in the application of mere cataplasms, a post-mortem in this disease is scarcely or not to be obtained, so generally do the patients recover.

I have now to add a fact from my own personal experience. I have recently seen the most satisfactory result, both in pleuritis and peritonitis, from the assiduous application of cataplasms of powdered linseed.

It is probably by the exclusion of the atmospheric air that other remedies for inflammatory diseases act; the various plasters, the nitrate of silver, even blisters have this effect. I do not, however, mean to insinuate that they have no other. Cataplasms may further act by their warmth and moisture. The nitrate of silver possesses some extraordinary power over the actions which constitute or coincide with inflammation. But certainly, more adhesive plasters have an efficacy in cases of chronic chest affection, in lumbago, sciatica, and other forms of rheumatism, in neuralgia, and even of scirrhus, which cannot be easily explained.

One of my patients, a martyr to extensive sciatica, was disired to envelope the limb in adhesive plaster. He was a joiner and an ingenious man He prepared the common stocking material with glue, dissolved in the proportion of one ounce to two pints of water. and had it spread over, when dry, with galbanum plaster, and if this exuded it was dusted with flour. By the steady application of this plaster his severe rheumatism was cured.

I was once informed by a celebrated physician that he had prescribed adhesive plaster to be applied over a scirrhous tumour of the mamma. It remained adherent for years, and the disease remained stationary. The plaster then separated, and from that period the disease pursued its devastating progress.

Certain modes of the treatment of burns consist in excluding the influence of the atmospheric air.

Some affections of the face are remedied by applying a layer of gelatine. Isinglass is dissolved in water, and the solution is applied with a camel's-hair pencil. and allowed to dry. I have just witnessed some very remarkable effects of this mode of treatment, which I will communicate hereafter.

On the Microscopical Characters of Milk and the use of the Microscope in the choice of a Nurse.

Recent inquiries have shown that human milk, examined by the microscope, presents different characters :—

1. Large globuled.
2. Small globuled, generally "pulverulent" milk.
3. Milk of medium-sized globules.

None of these are found in this fluid to the complete exclusion of the others. The first variety is the most nutritive, and the others in proportion to the size of the globules. The microscope, then, will enable us to determine, in doubtful cases, whether a given milk be of a strong or weak class, and will guide the physician in the choice of a nurse whenever the question turns on the advisability of one or other of these kinds. Milks differ not only in respect of the size of their globules, but also of the abundance of these; high or low amount of globules signifies richness or poorness of the milk generally.—*British and Foreign Review.*

Mineral Marmoratum, or Paste, to fill Hollow Teeth.

Take *Anhydrous phosphoric acid*, forty-eight grains;
Pure caustic lime, forty-two grains; finely pulverised. Mix rapidly in a mortar.

The powder soon becomes moist; it must therefore be brought as quickly as possible into the cavity of the tooth, which has been cleaned and dried; the powder is to be well pressed into the cavity, smoothed off, and moistened on its surface.

TOOTH POWDERS.

Take *Powder of red bark.*
Bole armeniac, sifted, of each one ounce;
Powder of cinnamon, half an ounce;
Bicarbonate of soda, half an ounce;
Oil of cinnamon, two or three drops.
Mix.

This is an excellent tooth-powder, unobjectionable in every respect.

Carbonate of magnesia may be substituted for the bicarbonate of soda, or precipitated carbonete of lime; but the solubility of the bicarbonate of soda renders it preferable.

Cases reported for the Dissector by A.H.—M.D.

Montgomery, Orange, Co., N. Y
17*th April*, 1844.

Dr. H. H. Sherwood,

My Dear Sir,—I was called on the 20th of February, 1842, to visit T. K. of Ulster County, in this State. He was a young man of sanguine temperament, good physical and mental endowments, and up to the time of he present sickness, had enjoyed uninterrupted good health. He was 18 years of age, and by avocation a farmer.

His illness commenced Sept. 3d, 1841, with swelling in the left knee, and after a few weeks in its fellow also, both joints being very painful. These swellings continued for a few weeks and then subsided, leaving stiffness, languor, &c. Seven weeks after the swelling of the knees had subsided, the shoulder and hips became similarly affected.—Chills, fevers, and head-aches immediately followed. The family physician being called pronounced the disease *Rheumatism*, and placed the patient under the usual antiphlogistic treatment. Notwithstanding this, however, the disease continued, but was erratic in its character, sometimes attacking the chest, then the head. In July, the throat and tongue became swollen, pus formed under the tongue, afterwards the chin, and then the cervical glands swelled and suppurated. The pain in the left knee and hip, at length gave way to counter irritation, blisters, &c. and from the use of porter, the strength gradually augmented, enabling him to sit up. But thus far the use of the left limb was not recovered, at the same time at this period, great tumefaction and edema took place ; in this state bandages were applied, and in September the formation of pus was discovered ; on the 15th, the abscess was opened, by incision in the thigh, about midway, on the outside ; on the 23d, another abscess which had formed on the opposite side broke ; on the 20th of October he was again able to sit up, and on the 1st of November, could walk with the aid of crutches.

On the 15th of November, while walking he had the misfortune to fall, by which the thigh was fractured 6 inches above the knee. As a matter of course, the limb was placed in splints, the ulcer continuing to discharge.

About the 1st of January 1842, the patient exhibited all those symptoms that indicate the ebbing of the tide of life, and that usually follow suffering from a protracted, and painful disease. He had a dry hacking cough, the hectic fever appeared, the frame was emaciated to a skeleton, and two additional abscesses had formed, and become running ulcers. The usual remedies of blistering, creating counter issues, and prescribing Iodine, Hydriodate Potassa, Extract of Sarsaparilla, Blue Pill, Spanish Rob !!—Swain's Panacea, &c., &c., constituted the treatment until February, at which time I was called in.

When I first saw the patient he was subject to colliquative sweats, his cough was obstinate, and his pulse seldom varied from 120. The whole left limb displayed the presence of great tumefaction, particularly the illiac region. The tubercular character of the disease was plainly indicated by these symptoms which were exceedingly unfavorable. He was also subject to great pain, which continued without any visible abatement, or interval of ease. Large doses of morphine were administered to quiet him, and as he and his friends remarked " to smooth the passage to the grave." For 17 weeks he had not left his bed, the pain of moving being too great to be endured. He had availed himself of the services of several experienced surgeons and physicians, some of whom had pronounced him beyond the reach of art.

From the condition of the patient when I was called in I felt the responsibility to be almost terrible ; however I entered upon my duty, trusting for success solely on those principles, which for many years past you have been laboring to establish.

Upon a careful examination, I found the diagnosis to be tubercula of the left knee, (white swellings,) half the former implicated with tubercula of left lung, liver, throat, heart, stomach and mesentery, accompanied with a total loss of appetite.

On the patient being placed under my charge, all former prescriptions were thrown aside. The diseased limb was bandaged smoothly from the instep to the knee, and wetted, with a strong solution of Sal Ferri, Capsia &c., at the same time fermenting poultices were applied to the thigh every evening. I prescribed a pill morning and evening, and covered the whole thigh with a plaster. I also placed one on the lumbar region, to be taken off at night, however, and the poultice applied.

Under this the magnetic treatment, 12 days from its commencement, the appetite returned, the palpitations ceased, and the pulse assumed a healthy standard. In three weeks the cough and expectoration ceased, the tumefaction subsided, pus of a more healthy character was discharged, and in one week more the patient was able to sit up. In July he could walk with the aid of sticks, and continued to improve steadily. In December last the ulcers, four in number, gradually closed up, and swelling with some pain followed. To alleviate this, one of the ulcers near the knee was re-opened, and serous matter with exfoliation of carious bone was discharged.

Since the re-opening of the ulcer near the knee the patient has improved rapidly. At this time he is able to walk without inconvenience, and labor at his business although not so well as before his illness. Indeed this was not to be expected. The patient when I was called in, was in an almost hopeless state, diseased in his entire system, and emaciated to a skeleton, therefore the cure must necessarily be very slow, almost as much so as is the growth from infancy to manhood. I have deemed it proper to be thus explicit, in order to show the error in judgment that occured at the commencement of the disease, as well as the mistakes in treatment that followed. He owes his life to your remedies."

"Mr. M. R. of Orange County, New-York, had been out of health two years, during which time he had received the professional services of 8 or 10 different physicians from whom he obtained little or no relief. About the first of last February, I was called in to see him, and on examination detected tubercula,—

1st—in the left lung. 2nd—in the stomach. 3d—in the kidneys. 4th—in the spleen, and 5th—in the large intestines. 6th—in the brain.

"In addition to this wretched condition of the body, he was also affected with Hypertrophia of the heart, liver, &c. The actio- of the heart was very much diseased, the most gentle exercise being followed by a prostration nearly approaching to absolute exhaustion. The most trifling emotion of the mind, the least surprise, as the entering of a stranger into his room, was attended with the most violent and painful palpitations, so great at times as to threaten immediate dissolution.

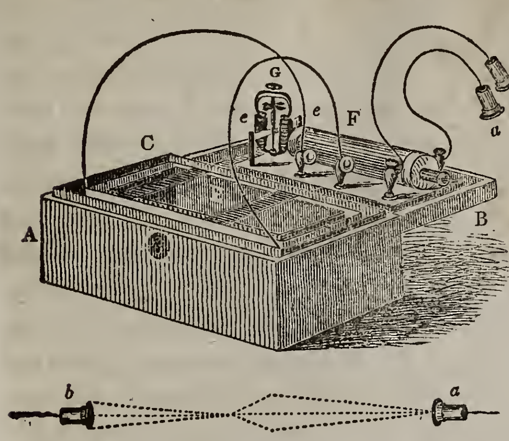
Nor was this all the disease from which the patient suffered; his spine was curved laterally,with an excavation on the left side, owing to paralysis of the abdominal and intercostal muscles, with perfect immobility of the left side, as indeed, could not be otherwise; this state was accompanied with an extreme derangement of the digestive organs, so great, in fact, as to prevent the exercise of their functions. The offices of nature were entirely suspended, except under the influence of medicine. The patient was in continual pain about the region of the pleura, and sleep could only be procured by large doses of morphine. In addition to this, for more than a twelvemonth, he suffered from headache without intermission. In this state he had been confined for nearly two years, seldom leaving his room, and was emaciated to the last degree, when I was consulted. The gentlemen who had preceded me, and who are the most eminent in that section of the country, and deservedly so, had placed him under the antiphlogistic treatment; indeed, the first symptoms were those of pleurisy, and in consultation with them they recommended an adherence to the course of treatment prescribed for inflammatory disease.—Notwithstanding this, however, I resolved to attempt the magnetic remedies as prescribed by Dr. H. H. Sherwood, having applied them before in many cases with the most satisfactory results; under this treatment the patient soon exhibited signs of improvement, and has continued to mend from that time to the present. He no longer suffers from pain, his appetite has returned, his sleep healthy and refreshing, and his appearance favorable; and so far as the radical cure of the complication of disease described is concerned, he has now entirely recovered his health; he is able to walk about his farm, eat the ordinary food provided in a farmer's household, and can ride a number of miles on horseback without fatigue. The magnetic treatment has rescued him from what was literally a "living death."

AMERICAN MEDICAL STUDENTS AND THEIR HABITS.

We extract the following very gratifying observations from a late number of the *Philadelphia Medical Examiner*:—

"The improvement in education and general character of the medical studeuts at the colleges in Philadelphia within the last few years is the comon subject of remark with all who have had the opportunity of judging. There are at this time between seven and eight hundred of these young gentlemen in this city,—connected from nearly all parts of the continent and the adjacent islands, surrounded by the temptations of a large city, and without the restraining presence of parents and relations,—as quietly and diligently engaged in the pursuit of knowledge as any grey-heaed philosophers that ever congregated together. They afford an example, indeed, to the young men of other professions in the place which it would be profitable for them to follow. Among other evidences of their self-denial and rigid determination to keep out of the way of temptation, is their voluntary association as members of a temperance society, on the principle of total abstinence. Early in the session of last year, such a society was formed among them, and embraced a considerable number; the present winter a similar movement was made early in the session; two public meetings have been held, at which nearly all the students in the city were present, and a very large number signed the pledge."

The Rotary Magnetic Machines, and the Duodynamic treatment of Diseases.



The savage Rotary Magnetic Machines are of different sizes, and are fitted into neat mahogany cases, including the battery. The case of the first size is ten inches long, five wide, and three deep. The second size is eight inches long, four wide, and three deep. The third size is seven inches long, three wide, and two and a half deep. The fourth size is six inches and a half long, three wide, and one and a half deep. The instruments are set on the covers in magnetising, as seen in the figure, and are made in a very superior style; are jewelled and run in the best manner.

A, case; B, the cover; C, sheet copper vessel; E, sheet copper, the lower edge of which is soldered on the bottom of the copper vessel C; D, copper piece connected with the zinc between the copper surfaces, containing a solution of sulphate of copper; F, cylinder of copper wire; G, magnet and armature; e, e, conductors to the armature; c, negative, and a, positive button for magnetising.

A great many physicians, as well as many private families, have been testing the effects of the Rotary Magnetic Machines during the last six months, and so far as we can learn, they are very generally well satisfied with the results they have obtained, but complain much of the imperfection of the old instruments—of the bungling manner in which they have been made—of their liability to get out of order—of the difficulties in running them, and of the necessity of frequent resort to the aid of blacksmiths, gunsmiths, &c. &c.

It was useless to talk to the manufacturers of these machines on the propriety and importance of manufacturing a more perfect instrument, so long as those that were coarse and cheap could be sold at a great profit. To obviate these objections, we were at last compelled to employ a jeweller to make the machine represented in the engraving at the head of this article, under our direction, as mentioned in our last number.

These machines are made upon a new and mathematical arrangement of a new principle in Duodynamics, are very light, neat and portable, and will last a life time.

It has been the great object of those who have before planned, or constructed the Rotary Magnetic Machines, to make them in a manner to obtain the greatest or most severe shocks, and for this purpose, large machines or instruments were supposed to be necessary, and those ideas were very natural, especially in those having large organs of marvellousness. They proceeded upon the erroneous principle "that the greater the machine the greater the power," or that the power increases *pari-passu* with the size of the machines, whereas the reverse of this proposition is true; for the power of these instruments increases as their size decreases —other things being equal, as is seen on a comparison of the old machines with the Savage instruments. The motions of the forces from the latter are continuous and agreeable, and produce the most violent action of the muscles and of the poles of the organs, without the severe and painful shocks of the former, which are more or less injurious, and always very unpleasant to adults, and are borne with great difficulty by children.

There are, in fact, many cases in which these shocks do a positive injury, like the electrical machines. The value of these machines consequently increases as the shocks decrease, or as the motions of the forces from them are more continuous, other things being equal. It was a principal object in the plan upon which the Savage machines are constructed to avoid these shocks, as much as possible, and it was in a great degree successful, but not perfectly so. We have however at last succeeded in our object, by having a cross or four or more arms to the shaft of the armature as seen in the figure, with a corresponding number of breaks or pole changers, and adjusting screws, which make the motions of the forces continuous. The *armatures* and *pistons* are gilded, the battery improved, and their power and value greatly increased.

The price of these improved machines is $20, while that of the others remain the same as before, or $18 for the largest size, and $15 for the 2d and 3d size, although they are improved by the cross and adjusting screws, which increase the power of these machines, and make the forces more continuous.

The figure drawn below the engraving is intended to represent the direction of the forces as they proceed from the buttons in magnetising—a, the negative button, repels and expands, while the positive button, b, attracts and contracts. Besides the negative force exerts an alkaline, and the positive an acid influence upon the fluids and solids of the body, and hence the importance of a scientific application of the buttons in diseases of the different membranes, or of the serous and mucous surfaces.

The form of the buttons for magnetising, and the different kinds of metals of which they are made, is a matter of some importance. Brass cylinders were connected with the machine, and held in the hands to show the power of the instrument, before we applied the buttons seen in the figure. It was then a mere toy, but is now an important and indispensable instrument in the treatment of diseases. Besides these buttons, we have found other forms very useful in magnetising the eye, and in some cases of disease of the uterus, urethra, &c., and these are now forwarded with the machines.

Effects of the Rotary Magnetic Machines.

In describing the effects of these machines in the April and July numbers of this work, we were very cautious in our commendations of this new mode of treating diseases, as a sufficient time had not elapsed since we commenced magnetising with these instruments to obtain a full and unbiased view of the subject. We had many doubtful cases under treatment, the result of which could not then be known. Among these there were some of the worst cases of *distortion* of the spine, and lumber abscess in children, of from one to eight years old, we have ever seen. Some of these cases were complicated with disease of the sacrum, hip joint, mesentery or lungs. Some of the worst cases are now cured, and all the others are so far advanced in the cure, as to leave little doubt of their entire recovery.

The great number of lateral curvatures of the spine, and the extraordinary effects of the machines in these cases, continue to excite the greatest interest. The cases we are now magnetising have continued from one to twenty-eight years, and many of them are of the worst description, yet they are all advancing to an erect position. In some of these cases the extent of the curvatures has been so great as to cause a displacement of the heart, lungs, stomach, spleen and intestines. The heart beats in the right, and is not heard in the left side, while the left lung occupies its position. The stomach and spleen are depressed, and crowded into the left or right side, and displace the intestines, but as the spine becomes more erect, they gradually resume their natural positions These are *all* cases of tubercular disease of the muscles, or *rheumatism*, in which *white swellings* are often formed under, over and around, the shoulder blades, on the hips—the side of the lumber vertebræ, and sometimes on the lower extremity of the spine.

Young females who have rheumatism, are always in danger of such a deplorable result. The disease is easily distinguished; for if a person has rheumatism—no matter what part of the body or limbs is affected by it—pressure with the fingers upon the intervertebral spaces of the cervical vertebræ will produce *pain* more or less severe, in proportion to the intensity of the disease. In cases of rheumatism, acute or chronic, affecting the head, face or limbs, the machine is, and will continue to be, invaluable. Nearly all the cases of dizziness in the aged, are cases of rheumatism, and are the premonitory symptoms of palsy or apoplexy, which may be easily reduced, and their lives prolonged by the use of this instrument. Rheumatism may, and does attack, one or both hemispheres of the brain, as it does a finger, hand or arm, and may paralyze them in the same manner, or the spasms from this cause may be so strong as to rupture the blood vessels of the brain, as they frequently do; when the blood flows into the sinuses, and ventricles, or forms deposits in its substance, as every physician knows, who distinguishes diseases by the magnetic symptoms.

In all the cases of disease of the organs the machine is of great service, and in some cases it is indispensable to a successful treatment, among which are some cases of amenorrhea, chlorosis, leucorrhœa, and prolapsus uteri, &c.

We have used the instrument in one severe case of bilious fever with great success. It reduced the pain in the head, stomach, liver, and back, with the paroxysms of fever, in the most prompt manner. In examining this case, severe pain was produced by pressure on the sub-occipital nerves connected with the brain, and pressure on the ganglions of the spinal nerves, in the intervertebral spaces connected with the stomach, liver, secum, and small intestines, produced the same effect, showing it to be a case of acute tubercula of the serous surfaces of these organs, instead of a case of gastro-enterete, or acute disease of the mucous surfaces of these organs.—These magnetic and invariable symptoms which point to the disease, like the needle to the pole, are always present in bilious, remittent, congestive, yellow, and *nervous* fevers. We have always found them in every case we have seen from the great lakes, to the Balize in the Gulf of Mexico, and we have published and circulated more than 20,000 copies of different medical works, in which these symptoms are delineated; yet the Professors of Astrology in our Medical Colleges call these fevers, cases of disease of the mucous surfaces of the stomach and intestines, from the aspects of the tongue and urine, and the color and odor of the stools, as in other cases of disease, and continue to teach such nonsense to the students of medicine. They have even had the address to induce grave legislators (tell it not in Gotham) to pass laws to prevent any person from practising physic until his head was full of such absurdities, as seen by their sign manual.

In two cases of paralysis, in consequence of prostrated fever; one of the entire left arm and hand, and the other of the extensor muscles of the left leg; the machine has had the happiest effect.

The first was a case of a little girl aged eight years. She had bilious fever when she was four years old, during which time the left arm was observed to be paralysed; since which time it hung by her side like a rag without the least power in the muscles of her arm, hand or shoulder.

On the first application of the buttons to the hand and shoulder; about two months since she raised her elbow two or three inches, and she can now flourish a cane with the same hand.

The second case was that of a young gentleman aged 20 years. He had bilious and then typhus fever, more than a year since, and when beginning to recover, found he was unable to raise the left leg. Various remedies were resorted to including the spring and bandage, without the least effect. We commenced magnetising the leg about ten weeks since under the full power of the machine, which he bore every day without the least uneasiness, or any apparent effect during three weeks. He however soon began to raise his toes, and then his foot, and next his leg, and in about eight weeks from the time we first commenced magnetising him he began to walk without his cane.

A recent but bad case of paralysis, of the right arm, of a mechanic aged 28 years was cured with the action of the machine in about two weeks. We have also apparently cured in the same way, four cases of recent and partial paralysis of one side of the face, in one of which there was slight paralysis of the right arm and leg.

These cases of paralysis were not complicated with disease of the organs, and required no medicine. We have also had three or four cases of paralysis of the muscles about the ankles, approaching what is called club feet that required no medicine, but nearly all of the other cases we have had since we commenced magnetising with the machine have required medicine.

We have tried faithfully to cure chronic diseases of the organs with the machine alone, but have failed in every case of any importance, and were at last compelled to resort to the aid of medicines applicable to the cases, when the disease has given way, and such patients have recovered their healths much sooner than they have before when under the influence of medicine alone.

Besides many recover when in the last stage of the disease, who could not do so under the influence of medicine alone.

We have also observed the daily effects of the machine alone, on tubercular and mucous disease of the throat and eyes, and also its combined action with medicine in these cases where we could see, as well as hear, of the daily and weekly progress of the cure, so as to be able to form a more correct prognosis of the progress of the cure in the lungs or other organs, and the results have been so palpable as to leave no doubt of the great importance of combining the action of the machine, with other remedies in diseases of the brain, throat, heart, lungs, stomach, intestines, liver, kidneys and uterus, as well as diseases of the spine, muscles and joints of the limbs.

On a comparison of the effects of the machine in a great number and variety of cases, it appears that its extraordinary effects must be imputed mostly to its power of restoring lost motion, by its action upon the magnetic organization of the system.

In acute or inflammatory diseases the motion of the forces along the membranes or substance of an organ, are obstructed at some point, when the motions of the fluids in the blood vessels, are instantly impeded and accumulate around that point and distend it. The forces from the machine if soon applied, re-establish the motions of the forces in the membrane or substance, and consequently the motions of the accumulated fluids, and health is re-established in the most prompt manner.

In chronic diseases, the phenomena presented to us are very different. The motions of the forces along the minute lymphatic and absorbent vessels of the serous surfaces become obstructed, when the motions of the fluids in these vessels are impeded, and accumulate in them and in the lymphatic or secreting glands and distend them, or the follicles or excreting glands of the mucous surfaces are distended in the same manner.—The strength of the magnetic organization of the glandular system of these different surfaces of an organ, limb, or other structure is consequently increased; while that of the general organization of the system is decreased in the same proportion; for the strength of the body or of a limb, depends entirely upon the strength of their magnetic organization; the muscles being the mere pullies and ropes by which it moves the body, head, eyes, or limbs.

Besides, acute diseases announce their advent, as thunder does a storm, while chronic diseases advance stealthily and slowly, and rarely excite the attention of their victims—guardians, or their attendant professors of Astrology, until these tuberculations in one case, and vegetations in the other, has gained great advantages in age and strength, and it must consequently, and does require a much longer time to reduce and restore lost motion in these regular organizations, than that of mere accumulations of fluids, as in the case of acute diseases.

If, however, we commence magnetising in the first stage of chronic diseases, they are reduced very fast as in the cases of tubercular disease of the throat and lungs, and there is no reason why physicians should not do so as there is now no difficulty in distinguishing chronic diseases with facility and certainty in the first as well as the last stage.

Besides restoring lost motion the Savage Rotary Magnetic Machines (at least) opens the pores of the skin, and increases the strength, and these effects of these instruments are very constant, and uniformly noticed by these patients.

In nearly all the cases we have magnetised including the case of fever, we have found it necessary to use medicine of some kind, or that indicated by the disease, and such patients have not only recovered much faster than they usually do under the old treatment but a great many entirely recover their health in cases in which the common alopathic and homœopathic remedies and a great variety of quack medicines have entirely failed.

The following is a postscript in a letter from Dr. L. D. Fleming, of Newark, N. J.

"July 4, 1844.

"I commenced treating Mr. S——, of New Vernon, for a tumor, or enlarged lymphatic gland, on the right side of the neck, of the size of a walnut, which had continued there 9 or 10 years. I Magnetised it with the Rotary Magnetic Machine 6 or 8 times in as many weeks, when it suppurated, and by the 1st of September the cure was complete. The effect of the instrument was the same upon a similar tumor on the lower part of the sternum of 30 years standing."

The Curability of Cerebral and Spinal Softenings.

Though numerous observations have fully demonstrated the possibility of this occurrence, Dr. Bennett considers that the anatomical marks or appearances, by means of which pathologists have endeavoured to demonstrate the fact, are very fallacious. The slight indurations occasionally met with in the nervous substance are spoken of by some authors as *cicatrices*—a term he thinks wholly inapplicable to them. Durand-Fardel alludes to the softening resembling chalky milk, as a proof of the passage of the lesion into a state of cure, and Dr. Sims speaks of the fawn-colored cavities as evincing the same fact. In one case of hemiplegia of long standing, in which the chalky milk-softening was found, the granules of the exudation-corpuscles were seen to be large, equal in size, and very transparent, in fact presenting a very unusual appearancc; it is not improbable, therefore, that the granules were undergoing absorption; and consequently that the opinion of Durand-Fardel may be correct. On the other hand, the appearances described by Dr. Sims were met with in one case, but here, on the application of the microscope, numerous exudation-corpuscles and granules were met with, precisely similar to those seen in parts undoubtedly affected with acute inflammation. Intense rigidity of the opposite side of the body also existed, without any other lesion than this which could at all account for it. Dr. Bennett's opinion therefore is, that the fawn-colored spots described by Dr. Sims are no evidence of the cure of inflammatory softening.—*Medico-Chirurgical Review.*

OBSERVATIONS IN MIDWIFERY.

BY TYLER SMITH, M. D.

The Spinal Uterine Actions excited through the medium of the Stomach.

Uterine action may be excited in three different modes:—

1. By the direct action of the vis nervosa from the central organ, the spinal marrow, in the direction of the motor nerves distributed to the uterus.

II. By the immediate action of the uterus itself, in virtue of its own irritability, on the application of an appropriate stimulus.

III. By the reflex action of the vis nervosa, along incident nerves, proceeding to the central organ, and from thence reflected by motor nerves to the uterus.

It is to one variety of the latter kind of action which has not hitherto been noticed as such, that I am desirous of drawing attention, namely, the uterine action excited through the medium of the pneumogastric nerve in the stomach.

I have looked in vain in the therapeutic treatises of Drs. Paris, Christison, Pereira, and A. T. Thompson, for any reference to a motor action of the uterus, dependent on the application of a stimulus to the stomach. They make the common remark that emetics should not be given in the latter months of pregnancy, but the rationale of this contra-indication has been, that the straining of the abdominal muscles, and the concussion would prove injurious It has also been the general belief that stimulants excite contractions of the uterus, but this has been explained by their simple exciting effects on the system generally. Another fact observed, namely, that sickness or nausea favors the dilatation of the uterus, has been thought to depend on the general effects of nauseants, and not on a particular action on the uterus.

In fact, as far as I am aware, the idea of a spinal action *from* the stomach *to* the uterus, or even a sympathy acting in this direction, has completely eluded the writers on materia medica. The converse of this, the action of the uterus on the stomach has been well understood, and the knowledge of reflex motor action supplies the true explanation. Practical accoucheurs, have, however, recorded numerous facts, showing that excitation of the gastric nerves is usually followed by uterine contraction, but none of them have attempted to account for such facts on the principles of reflex motor action.

Among the proverbial philosophy of the lying-in-room, nothing is more popular or more true than that "sick labors are always safe." I believe the explanation of this to be found in the circumstance that irritation of the stomach promotes the actions of the uterus, increasing both its contractions and the dilatation of its mouth. In the first place I proceed to consider briefly the evidence of the former kind of action.

Uterine Contractions excited through the Medium of the Stomach.

Dr. Rigby observes that "a sudden drink of cold fluid will generally excite contractions of the uterus, owing to the close sympathy which exists between it and the stomach."

Heat, as well as cold, is a powerful excitor of reflex motor action. It was the old practice, and is still the rule with nurses and others, to give patients warm drinks from time to time during labor, with a view to strengthen the pains.

Much discussion has been raised about the proper mode of exhibiting the ergot of rye, but it is singular that almost all accoucheurs consider the warm or cold infusion to be most efficacious. Is not this because either the warm or cold liquid tends to excite the uterus, and in this manner adds to the power of the ergot? Without doubting the specific action of the ergot, I may adduce, in favor of this opinion, a remark made by Mr. Headland, at a recent meeting of the London Medical Society, to the effect that he knew a gentleman who had kept a table of the relative effects of the ergot, and warm brandy and water, and had found them nearly equal in power. It is also well known that taking warm fluids into the stomach immediately excites after-pains when delivery has taken place.

Spontaneous sickness sometimes occurs in uterine hæmorrhage, and excites uterine contractions. With reference to this point. I quote the following interesting passage from Denman:—

When patients have suffered much from loss of blood, they will often have a sndden and violent fit of vomiting; and sometimes, under circumstances of such extreme debility, that I have shrunk with apprehension lest they should have been destroyed by a return or increase of the hæmorrhage, which I concluded would be an inevitable consequence of so violent an effort. But there is no reason for this apprehension; for although the vomiting may be considered as a proof of the injury which the constitution has suffered by the hæmorrhage, yet the action of vomiting contributes to its suppression, and to the immediate relief of the patient; perhaps by some revulsion, and certainly by exciting a more vigorous action of the remaining powers of the constitution, as is proved by the amendment of the pulse, and of all other appearances, immediately after vomiting, which I have therefore in some cases attempted by gentle means to promote."

Though the true *modus operandi* of vomiting is not given in this passage, it is clear from the context the writer was aware of its causing uterine contraction, for he remarks that "during faintness the advantage arising from contraction of the uterus is obtained; for this acts, or makes its efforts to act, in sleep, during faintness, and sometimes even after death." He adds that the nausea produced by medicines "has by no forced construction been considered an artificial imitation of faintness, and found serviceable, and medicines have been given expressly for this purpose" in cases of hæmorrhage.

In cases of abortion from excessive vomiting in the last months of pregnancy, I believe the accident is caused by the uterine contractions it excites, and not by the concussion of the system, or the spasmodic action of the abdominal and other muscles as generally supposed.

Dilatation of the Os Uteri through the Medium of the Stomach.

The belief in the power of nausea or vomiting to relax the uterus in common with other parts of the body, is of very ancient date. Dr. Ramsbotham, however, appears to have been the first to recognize a practice founded on this idea. This physician observes, "Under a state of preternatural rigidity of the os uteri, it not unfrequently happens that without any cause, and independent of any means being used, sudden relaxation takes place and from that time the labor progresses with much greater rapidity. This favorable alteration in the condition of the organ is generally accompanied by sickness, and I always hail an attack of vomiting under such circumstances, provided there be no symptoms of exhaustion present, as the harbinger of a fortunate change. I have stated above that emetics have been recommended for the purpose of facilitating the dilatation of the uterine mouth, under the erroneous idea that the vomiting was the *cause* of the softening observed; but that artificial vomiting induced with this view had disappointed the expectation of its advocates. Antimony, nevertheless, taken in doses sufficient to keep up a feeling of nausea, has been exhibited in these cases with marked advantage." In another passage Dr. Ramsbotham repeats that nauseating doses of emetic tartar are of service in dilating the os uteri. I agree with his conclusion, but not with the mode in which it is arrived at. The action of the uterus on the stomach is recognized by him, but not the reciprocal action of the stomach on the uterus. Hence the contradiction involved in Dr. Ramsbotham's view of the subject. He considers the idea that vomiting causes dilatation to be erroneous, and yet admits that nausea is of marked benefit in dilating the os uteri. If nausea have the power of dilating the os uteri, then emetic substances must *per consequence* be a *cause* of uterine dilatation. The difficulty is solved if we recognize in the action of the two organs what Sir C. Mansfield Clark called a double sympathy, in other words, a double reflex action; in fact, if we believe that irritation of the uterus excites nausea and vomiting, and that these, in turn, excite the action of the uterus through the medium of the spinal marrow.

Other physicians besides Dr. Ramsbotham have testified to the effect of emetic tartar in dilating the os uteri. We may illustrate its action on this part by referring to the more extensive effects of nausea and vomiting on the system.

Emetics have been commonly looked on as relaxing all the soft tissues, and in this general relaxation the active dilatation of a reflex kind which they cause in different parts of the body has been completely merged. I believe that nausea dilates the os uteri under the influence of reflex action, but I further believe that a more extended view than this may be taken of the action of vomiting, and that we may look upon it as the means of dilating all the contractile orifices and canals of the body in cases where dilatation is required. In all irritations of mucous ducts and canals, either nausea or vomiting is excited, and accompanies the attempt to eject the cause of irritation; or, more properly, we may term it a provision for effecting their expulsion. In this sense the power of vomiting to dilate the sphincters, or contractile passages, assumes the utmost importance; its object being to remove all obstructions from the mucous surfaces. It dilates the œsophagus, the cardia, the lips,* the gall-ducts, the Eustachian tubes, the ureters, the urethra, the cervix vesicæ, the sphincter ani, probably also the bronchial tubes, and, as I believe the os uteri and vagina during labor. All this is not evident in ordinary vomiting, because some of the parts are closed by voluntary effort; but in excessive sickness, or where volition is suspended, as in the combination of vomiting with syncope, such an extended action of the spinal system occurs. In vomiting the cardia and œsophagus are always dilated, and I believe that in cases where there is no preternatural rigidity, the os uteri is dilated by vomiting in parturition. It is also certain that in severe vomiting, and in the vomiting of children, the fæces and urine are sometimes expelled. It is likewise known that obstructions of the Eustachian tubes, and biliary and renal calculi, are often dislodged during a fit of vomiting. This has been referred to concussion, but it would be more physiological to attribute it, in great measure, to a *positive dilatation* of these canals.

Diaphoresis is a very constant attendant on vomiting, and I know that Dr. Marshall Hall believes every perspiratory pore to be endowed with its sphincter, which is relaxed and contracted to different causes. According to his view the sweating of sickness, or from drinking warm fluids, would depend on the dilatation, by reflex action of the innumerable sphincters of the cutaneous surface; and the *cutis anserina* in the cold stage of ague, or on the application of cold, would be owing to their contraction.

But let it not be supposed that in pursuing this train of reasoning I would deny that simple relaxation is really caused by vomiting and nausea. We know that a strangulated hernial tumor is sometimes reduced during the continuance of nausea, which it was previously impossible to reduce; and we know that volition is impaired, and the power of the voluntary muscles enfeebled by nausea; but we are also aware that while the voluntary muscles are thus affected, those concerned in vomiting under the influence of spinal action, are powerfully contracted. On the other hand, while the soft tissues and the voluntary muscles are relaxed, the sphincters, and muscular canals are in a state of positive dilatation as long as vomiting or nausea continues.

We are bound to acknowledge the distinction between relaxation of the muscles under the influence of the *cerebrum* and the contraction of those under the control of the *spinal marrow* during vomiting. We must likewise recognize the difference between *passive relaxation* of the soft tissues generally, and the *positive dilatation* of the sphincters under spinal influence. Without admitting such distinctions it is difficult to understand the effects of gastric irritation on the uterus in producing at the same time *contraction* and *dilatation*.

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* This is more particularly seen in the vomiting of infants, in which the opening of the mouth in sickness is as clearly a reflex act as its closure in sucking.

There is another subject related to the present which I propose to consider on a future occasion. I mean the *vascular* and *sensory* connection between the stomach and the uterus, particularly in the direction *from* the stomach *to* the uterus. This will embrace the effects of nauseants and other gastric excitants in increasing and producing the catamenia; the action of emetics in puerperal fever; the power of dyspepsia as a cause of dysmenorrhœa, amenorrhœa, chlorosis, sterility, abortion, and other important points of a practical nature.

Bolton street, June 7, 1844.

The subject of the above article will be better understood by a reference to the diagram of the magnetic organization of the human system in the last or July number of this Journal, as traced by the Rotary Magnetic Machine, in which it will be seen a magnetic axis exists between the cerebellum, the organ of motion, and the uterus, and the stomach and uterus, or a direct magnetic connection between them, without any regard to the spinal nerves. There is also a direct connection between antagonist muscles, by means of magnetic axes, and all these axes are so connected as to concentrate their power upon the uterus. There is no other way by which such a tremendous power, as is seen in many cases, can be made to bear upon the uterus.

Case of Complicated Ovarian Disease.

By Charles Hogg, Esq., M. R. C. S., Lon.

Jane Rickets, aged 55, Brick Lane, Old-street-road, consulted me on the 8th of March, 1841. She then complained of obtuse pain over the whole right hypochondriac region, extending to the scapula of the same side; pulse feeble; tongue coated with a brownish fur; appetite bad; acidity, with flatulence and constipation; difficulty of breathing on exertion, but no fixed pain in the chest, except in the inter scapular region already alluded to; complexion sallow, and the general health much inpaired; considerable morbid sensibility. On examination the liver felt hard and considerably enlarged, painful on pressure. In the abdominal region there was considerable enlargement, and fluctuation was distinctly perceptible. The urine was scanty, pale, but sometimes turbid, and deposting a sediment; a very trifling quantity of albumen was discoverable by the ordinary tests during the whole course of the disease. Her general health, for several years back, had been indifferent; she was considered temperate in her habits. Large doses of extract of taraxacum, with sulphate of magnesia and tincture of rhubarb, occasionally three grains of blue-pill, with five of compound extract of colocynth, apparently restored the liver to a healthy state. She also took a vapour-bath twice a week. The digestive organs regained their former vigour; with this her usual strength; both the skin and kidneys performed their functions healthily.

Iodine, in its various preparations, was employed, also diuretics, hydragogue cathartics &c; but notwithstanding every effort the water accumulated, and I was compelled to have recourse to tapping on the 21st of April of the same year On proceeding to the operation I found to my surprise, as well as that of my friend, Mr. Sparke, who saw the case two or three times, a hernia about the size of a full-grown child's head, protruding an inch below the umbilicus. It was easily reducible after bandaging and twenty-five quarts of fluid were drawn of. The consistence of this fluid was about that of olive oil, horribly offensive, and of a greenish yellow color.

I now discovered the existence of what the general swelling had prevented me from ascertaining earlier, viz; a lobulated tumour extending beyond the pelvic into the abdominal region; measuring, as nearly as I could estimate, ten inches in length by five or six in breadth. It was extremely tender on pressure, and even on touch, although no pain was complained of on repose.

Moderate antiphlogistic treatment was had recourse to, and the vapor bath continued. The recovery was rapid, and as she became apparently in excellent health and spirits, I had begun to hope that permanent good had been done. On the 2nd of August, 1841, she again requested my attendance; the abdominal enlargement was as great as before. Twenty-five quarts were again removed, the fluid was less offensive in smell, consistence, and colour than before. The former treatment was resumed, with the same effect, that is, the general health alone was benefitted; the fluid now secreted more rapidly, which obliged me to remove it every fourth or fifth week, until the number of operations amounted to twenty nine, thus making altogether *one hundred and seventy gallons* of fluid which had been abstracted. I have unfortunately mislaid my memorandum of the specific gravity. About the middle of January, 1844, unfavourable symptoms began to appear, which were ushered in by alternate rigors and hot fits; face flushed; pulse unusually feeble, at times scarcely perceptible; she complained now of violent pain in the right hip, which did not yield to either general or local applications, vomiting, cold perspirations, and at last she died on the 8th of the present month.

Examination, Twenty-six Hours after Death

The body was by no means emaciated; after removing about ten quarts of fluid, the abdomen was laid open. Instead of the usual appearance, the omentum presented small pieces of greenish fatty matter. No traces of inflammation to any extent were observable; the parietal peritoneum was much thickened and of a cartilaginous consistence. The liver was greatly enlarged, and of a dark-slate colour. On an incision being made, there gushed out a dark grumo-purulent fluid, having a most offensive smell. The organ seemed to have become one extensive abscess, but little of its parenchyma remaining. The lungs, heart, kidneys, pancreas, spleen, did not exhibit any appreciable marks of disease. On first examination the ovaries, uterus, &c., appeared one mass of disease, connected by thin membranous bands to the surrounding parts. On carefully separating the tumor from its adhesions, the uterus and Fallopian tubes were found free from disease; there was more vascularity found than in the natural and healthy state. The patient was supposed to have some disease in the uterus twelve months before I saw her, and was treated for some time with reference to such disease. The tumor itself appeared to be composed of cells; their exact structure could not well be ascertained, as they seemed as if crushed into each other. The diseased ovarian mass was very vascular, several of the arteries were of considerable calibre; it appeared to be about the fourth of the size which it presented when noticed after the first tapping.

I have occupied too much space already to make many reflections on the case. I was most surprised at the state of the liver; after the first three months I had no reason to suppose there was much disease existing in that organ from the nature of the symptoms. The marked improvement in the general health and strength led me to suppose that the hepatic disease had been overcome.

Finsbury-place South, March 19, 1844.

ASTONISHING EFFECT OF ELECTRICITY IN CURING HYSTERICAL LOCKED JAW.— The following account of the efficacy of this extraordinary remedy, we should do wrong in withholding, though it should never again prove effective. We have the account from some friends who chanced to be present, and saw the patient eating the first meal she had taken in five days, a few minutes after the spasm had ceased. She had been previously nourished by drawing milk through the apertures of the closed teeth, through which the edge of a knife could be passed with the greatest difficulty. The young woman was thus affected in consequence of exposure to cold and fatigue, and was completely recovered by the Electro Galvanic aparatus applied to both angles of the jaw. The machine had not made forty revolutions, when the jaw opened to its full and natural width. We learn that it has been successfully applied for many nervous diseases of the eye; also in a case of poisoning by laudanum, where two entire ounces had been swallowed. In this case the patient was revived by the machine, and collapsed alternately, during five hours, the intervals becoming shorter till speech was re-established. Curvature of the spine has also yielded to its power. Indeed its proper application is as varied as diseases of general debility and irregular nervous action. It was applied by Dr. E. H. Dixon, of 5 Mercer street.

N. Y. JOURNAL OF COMMERCE,
September 1, 1844.

NOTE—We saw this case soon after the jaws were opened and she had eaten her first meal.—Editor.

THE "TRAITEMENT ARABIQUE"
IN OBSTINATE CASES OF
SKIN DISEASES.

By G. M. Dangerfield, M. D., Newport.

The very remarkable success I observed to follow the under-mentioned novel treatment in some of the worst and most obstinate cases of chronic cutaneous affections in the south of France, induces me to make it known to the profession through the medium of THE LANCET. Most medical men in extensive practice can testify as to the obstinacy of certain cutaneous affections, and will appreciate any mode of treatment calculated to aid them in their endeavours to effect a cure when all *ordinary* means have failed; such, from the few cases I have seen, I am induced to hope will be the result of the following treatment if perseveringly carried out. I have hitherto had no opportunity of proving its efficacy in this country, but would urge its adoption by the profession at large, and particularly by those having the advantage of hospital discipline to carry it out, believing it to be our duty to investigate the merits of any treatment likely to relieve those obstinate cases of cutaneous disease which render the patient's life a misery to him, and often defy the utmost exertions of our art.

These means consist in a treatment known in France by the name of *Traitement Arabique,*—composed of pills, an electuary, a decoction, and a particular diet (*diete seche.*) The pills are the following:—Quicksilver, bichloride of mercury, of each half a drachm; senna, pellatory of Spain, agaric, of each one drachm.

The bichloride and quicksilver are first rubbed together, the vegetable substances are then reduced to a very fine powder, and all mixed with the mercury, until the globules have disappeared; then made into a mass with honey, and divided into *four* or *six* grain pills. The electuary consists of—Sarsaparilla root, six ounces; China root (squine,) three ounces; dried nut shells, (ecorce de noisettes torrifiees,) one ounce; cloves, two drachms. Reduce all to a fine powder, and make an electuary with honey. The decoction:—Sarsaparilla root, two ounces; water, three pints. Boil to a quart, and strain.

The *diet*, which particularly appears to influence the treatment, consists in the patient confining himself for twenty-five, thirty, or forty days (seldom more) rigorously to the following regimen: avoiding all other substances, he shall eat only *cakes*, biscuits, and dried fruits, such as nuts, walnuts, figs, almonds, &c. To drink *no fluid of any description*, except decoction of sarsaparilla

This severe regimen, however, cannot always be enforced in very debilitated subjects; hence in these extreme cases a broiled mutton-chop may be allowed once a day, but experience has shown that this has been rarely necessary. The medicines are administered in the following manner:—

A *pill* is given every night and morning, followed by a wineglassful of the decoction; an hour after the pill a drachm of the electuary, gradually increased to six drachms, is to be taken, the decoction being drunk at intervals during the day.

The mode of treatment must vary, of course, according to the age and temperament of the patient, and the intensity and duration of the disease. The practitioner must exercise his own judgment as to augmenting or diminishing the dose of the pills, when to *suspend* or recommence them; in a word, it is for him to modify but not to diverge more than possible from the rules laid down until the disease is removed.

There is one remark I would make relative to the pills, as the cause of their requiring the constant attention of the practitioner depends upon their producing frequently, sooner or later, salivation. It has been remarked that this effect commonly depends upon their being recently prepared, and that when they have been made *two* or *three* months, such accidents rarely take place. This depends doubtless upon the constant contact of the bichloride with the quicksilver and other ingredients, it becomes modified in its chemical conditon, and loses more or less its corrosive qualities, and hence is more adapted for its present application.

My sole object in bringing this treatment before the profession is a desire to hear of its merits being put to the test of experience. In the few cases in which I have seen it employed (cases of maculæ syphiliticæ, syphilitical psoriasis, idiopathic chronic eczema, psoriasis) it was singularly successful, after the ordinary remedies had failed, and I may remark that it has now stood the test of a considerable number of cases of the most obstinate and inveterate character in the hospitals of Montpellier and Marseilles. The most singular part of it is, that in some cases of syphilitic psoriasis, where mercury pushed to salivation, decoction of the woods, mercurial bath, nitric acid lotions, &c., had been administered without permanent benefit, the employment of the *traitement Arabique* was successful, and that in the short space of four or five weeks. These are points for reflection, and it will be for experience to determine how far the withdrawal of all fluids from the diet, with the exception of decoction of sarsaparilla, can influence the action of the preparations of mercury, for these cases had a syphilitic origin, and mercury had been given previously a fair trial. Again, what is the *modus operandi* in those cases where no syphilitic taint exists? and it has been found as serviceable in those as in the former. The humoral pathologist may account for it by arguing that the action of the skin will be modified by the quantity of the circulating fluid being diminished, on the principle that a supply of fluid to the blood is necessary to exudation, &c.; and "those who have dined off dry food or laboured in the tropics will, perhaps, admit of both force and truth in the remark." To diminish the blood and alter its constituents are decidedly depletory acts, and thus local inflammatory action may be removed; and the diaphoretic action of the sarsaparilla, &c., may equalise the humoral distribution, and thus tend to restore a healthy action of all the functions. Mercury, it is true, excites certain secretions, but modifying morbid ones restores the balance, and both subsiding together, health and natural actions are restored. Without attempting, however, to explain the operation, leaving that to an abler pen, I place the matter in the hands of the profession, trusting that some one may have the means ere long of confirming or removing the favourable opinion I have formed of its merits.

MEMORY:

Its Influence and Importance as a source of action in animals.

By J. Johnson Kelso, M. D., Lisburn.

Besides the influence of memory as a source of action in animals, the consideration of which is here more immediately to engage us, there are very obviously and distinctly these other influences in addition :—

1. Instinct;
2. Intellectual action, or ratiocination ;
3. Mental feeling, or emotion.

Of these latter sources, or principles of action, instinct only, as we shall find, is entirely independent of an exercise of memory in reference to prior sensations or impressions. Therefore, when in addition to the *direct* and unequivocal influence of memory, whose extensive diffusion through the animal kingdom we shall, it is hoped, be able satisfactorily to establish, we take into account its *indirect* influence, as manifested through processes of intellectual action, or a species of reasoning and mental feeling or emotion, the vast importance of this faculty, as a stimulant and guide of action in many different genera and tribes of animals, at once discloses itself, challenging very forcibly detailed inquiry and exposition. It is certainly only consistent with ordinary correctness to refer phenomena to their proper causes, and this equality in the psychical and in the physical world.—But certain it is that almost all recent wrters on instinct, of any degree of celebrity, have referred many phenomena to this peculiar influence, which more or less evidently pertain to an operation of memory, or the intellectuality of the animals ; this, undoubtedly, is an error which imperatively calls for correction, at least as far as may be. Hence, in order to place the subject in a proper light, to distinguish those actions which are the result of memory from those that belong to instinct,—in a word, to eliminate, as far as practicable, truth from error, it will be absolutely necessary to go somewhat largely into details ;—to review not only the phenomena of memory in animals, and those active mental manifestations connected with their nature, involving, as an essential condition, an exercise of this faculty, but also the principle of instinct itself, and its immediate consequences or effects.—With a view to this important object, the following communications are placed at the option of The Lancet ; and, although the ground which we shall have to traverse is, as will be apparent, rather extensive, and rich besides in topics of no ordinary interest, still I hope not to trespass too largely on the valuable space of that journal.

Memory, as is perfectly clear, pertains not exclusively to the mental or intellectual constitution of man ; it exhibits itself, also, in some degree, in many, very many, of the lower animals, influencing, or guiding and controlling their actions to an extent little short, probably, of that of the power of instinct itself.

With reference to all the higher species of animals, the indications of the influence of memory are numerous, indeed, and most unequivocal ; and it may be stated here, generally, that in them, equally as in ourselves, it constitutes the main-spring of all those actions that have conventionally been denominated *intelligential.* But, in regard to the more humble and essentially instinctive orders and tribes of creature life, the existence and active play of this faculty, as evidenced in *certain* of their actions, has, tacitly at least, been hitherto altogether denied, though as I am disposed to think, quite erroneously. In a word, as a source or principle of action both in vertebrated and invertebrated animals the influence of memory, directly or indirectly, through processes of comparison and combination, has been hitherto either wholly overlooked, or only casually and incidentally adverted to in explanation ; and by no one, so far as I am acquainted, has the question received that degree of attention which its importance most undoubtedly demands.

The different sources, or principles of action in animals, we have just now indicated, and it will be seen that they naturally divide themselves into *instinctive* and *non-instinctive* Of the latter, it has been equally observed, that memory is either the sole spring or agent, or the chief and indispensable actuating power, or rather element of those composite principles and feelings which constitute the source of numberless and infinitely varied actions, habitual or incidental, in many different genera and tribes of the lower orders of creation.

It may be as well, then, briefly to advert, in the commencement, to those actions which are the result, not of memory *per se*, but of mental or intellectual processes *necessarily involving* an exercise of this faculty in some degree, and they may not inappropriately be viewed here under the general head of

ANIMAL INTELLIGENCE.

That there are many different species of the lower orders which habitually will and perform many actions that are admirably suited to the attainment of certain ends,—and these often remote and obscure, and known to us only by repeated observation, or experience and reflection, and reasoning on the inductive principle,—is a proposition the correctness of which there are few, now-a-days, who would be disposed seriously to call in question. And as actions of this kind can never, with any pretensions to common accuracy, be considered as at all pertaining to the power either of instinct, or of memory *per se*, —far less, certainly, to mental feeling or emotion,—they have, very correctly, been referred to processes of intellectual action or rationality; implying equally an exercise of these essential powers or elements of reason —*comparison* and *combination*, and memory or recollection of previously experienced sensations, or acquired perceptions.

It was, as is well known, the opinion of both Descartes and Buffon, that animals are nothing more than automata—mere pieces of artificial mechanism, insensible equally to pleasure and to pain, and incapable of internal feelings or emotions, as well, of course, as processes of ratiocination, implying an exercise of several distinct mental faculties—akin to those of which we are susceptible ourselves. If this were the case, the objects of creation would for ever remain a dark and unfathomable mystery. But the very reverse happens to be the fact. I shall, I feel persuaded, be able satisfactorily to demonstrate that the vast majority of animals are suceptible, in some degree, not only of the common feeling of enjoyment, but of several distinct mental feelings, or emotions, analogous to those which agreeably or disagreeably influence ourselves. I cannot, too, but think myself capable of establishing, quite clearly, the fact of many animals of different orders, genera and species, being influenced and guided in their actions to an extent not generally known or conceded through an operation of memory in reference to prior sensations or impressions, felt and remembered. Further, I shall be able, I feel convinced, satisfactorily to show that many animals of all the higher orders and classes are possessed, in addition, generally, to great natural sagacity, of limited powers of reasoning from premises to a conclusion. It is the consideration and illustration of the latter highly interesting and important question to which, with permission, we now propose to turn; and, commencing with insects, the ants may be first noticed as furnishing us with some unequivocal indications of the influence not only of strong natural sagacity, but apparently of a degree of intelligence and memory.

I may here drop the subject for the present and, with permission, will resume it in an early publication.

Lisburn, April 29, 1844.

Physometra or Tympanitis of the Uterus.

MM. Stoltz and Naegele, two of the most celebrated practitioners in the diseases of females of the present day, at the medical congress held at Strasbourg, 1842, expressed their belief that tympanitis of the uterus was impossible, and that the alleged cases of its occurrence were apocryphal. M. Lisfranc has seen several cases in which physometra was caused by the decomposition of extraneous matter included in the uterus. In one of these cases the womb extended three inches above the pubes, and occupied nearly the whole transverse diameter of the hypogastrium; on examining the uterus with the finger in the vagina, the other being applied on the hypogastrium, he felt a tumour of extraordinary elasticity; during the manipulation the neck of the uterus suddenly dilated, a volume of gas escaped with considerable noise, and the abdomen resumed its natural size; the uterus, however, remained slightly dilated, and at short intervals audibly expelled portions of air. After the lapse of a few days a fleshy mole was expelled. M. Lisfranc argues, that as the mucous membrane of the intestinal canal indisputably often secretes air, it is unreasonable to deny that the lining membrane of the uterus may also do the same; and in answer to the objection, that any gas generated in the womb when its cervix is not mechanically obstructed must escape, he observes, that every surgeon who has had much experience in examining the uterus must have often observed the remarkable facility which the inferior orifice of the uterus contracts."

The reviewer remarks that M. Lisfranc does not appear to have seen any case in which the tympanitis was purely *dynamic*, that is independent of the presence of an extraneous substance in the womb. He refers to a case, however, which is perfectly satisfactory on this point. In this instance, during three years, gas had been freely generated, though there had been no evidence of the presence of any other foreign body in the womb. The abdomen became at certain intervals distended and returned, on the expulsion of the gas, to its former size.—*British and Foreign Review.*

Extirpation of the Uterus by Ligature.

Two cases of this formidable operation have been recently recorded, one by Dr. Esselman, in an American journal, quoted in the *Medical Gazette;* the other by Dr. Toogood, in the *Provincial Journal.* The first was the case of a married lady who had laboured under disease of the womb from the date of her first confinement, twelve years previously. It was finally determined to remove a polypus like tumour which was found occupying the vagina. A ligature was applied and tightened every morning, for eighteen days, at which time the tumour came away, and, to the surprise of her physician, instead of a polypus, proved to be the uterus itself, much reduced in size by ulceration and strangulation.

The patient, thus accidentally deprived of her womb, did well; at each monthly period, however, she suffered from cerebral congestion.

The case related by Dr. Toogood was that of a single lady who had suffered for many years from what was called a prolapsus of the uterus. It was ultimately found impossible to give the patient relief by the usual remedies, and "a careful examination having shown that the neck of this large mass, as it entered the vagina, rather diminished in size," it was resolved to remove the whole.

"The mass removed was about two pounds weight, the shape of the uterus, but its structure much altered in character, the cavity being quite obliterated, and the os uteri become almost cartilaginous." The patient recovered, and "on examination no uterus could be discovered," nevertheless, the history of the case and the description of the mass removed, excites some suspicion as to its nature.

We should hesitate before recieving " it as an additional example of the safety and propriety of removing the uterus under certain circumstances."

REMEDIES FOR NEURALGIA.

By R. H. Allnatt, M.D., M.A., F.S A., &c.

In reference to a notice of mine, which appeared some time since in The Lancet, of certain "Remedies for Neuralgia," Mr. Chippendale has courteously mentioned two cases, which he states to have been successfully treated by the application of the infusion of tobacco; and, he adds, "it appears to me that an extract might be prepared from tobacco, which, being mixed with simple cerate, would be a convenient form for frictions."

In the category of antagonist "unsuccessful remedies," recorded by me in my work on "Tic Douloureux," I find a mention of this extract; and I also find that tobacco, in all its forms and modes of preparation,—its cataplasms of dried leaves, tincture, infusion, extract,—have all been resorted to, at different periods, by the despairing practitioner.

The potassio-tartrate of antimony, also mentioned by Mr. Chippendale, has been often tried, and almost as frequently rejected as useless. Dr. Scott was the first, I believe, to propound this remedy,—upon what principle it would be difficult to conjecture; and Magri, following the wake of an empirical practice, applied compresses moistened with a strong solution of tartarised antimony, until redness, approaching to pustulation, had been produced. These two agents, Mr. Chippendale has cited as having been simultaneously employed; the example, I can assure him, is by no means an isolated one; and I cannot but congratulate him for repudiating the doctrines which would enforce the adoption of such heterogeneous, conflicting elements in combination.

In sober truth, *tobacco* was designed for a far less noble purpose than the cure of neuralgia, and Mr. Chippendale will, I am sure, pardon me for stating, that I rather doubt whether or not the cases to which he has alluded were, *ipso facto*, anything more than neuralgia *notha*, or a spurious kind of *rheumatic* tic. I can hardly persuade myself that the peripheral pangs of true ganglionic irritation can be appeased by any measure that falls short of at once striking at the root and origin of the evil.

Having now encountered a vast variety of these maladies in all their phases, in their various complications, and in all stages of their manifestations, from the functional form of a few day's growth, to the hideous organic variety of thirty years; and having, as far as these opportunities have enabled me, searched diligently into matters connected with their history, past and present, and traced the rise and progress of the accompanying pathognomonic symptoms, I have little hesitation in expressing a decided conviction of the truth of the following propositions:—

1. That peripheral neuralgia never occurs as a primary idiopathic affection, but that (independent of organic disease,) its invariable source may be ascribed to irritation of the ganglionic centres.
2. That this condition is transmitted by direct communication, irrespective of the laws of "sympathy."
3. That (functional) tic is an affection peculiarly amenable to *constitutional* treatment.
4. That local applications, whether sedative or stimulating, anodyne or *destructive*, are more frequently detrimental than sanative in their operation.

Dr. Copland, in the last number of his "Dictionary of Practica Medicine," a work which has been applauded by the unanimous voice of the whole profession, states that "Sir Charles Bell and Dr. Allnatt have praised the decided exhibition of croton oil as a *purgative*," in cases of neuralgia. A few words will suffice to explain upon what principle I have recommended the adoption of this agent.

I do not, in the majority of instances, employ croton oil uncombined, or with a view to obtain its purgative effects. In fact, so minute and subdivided are the doses requisite to ensure its remedial action, as to preclude altogether the idea that its salutary operation resides in the power it possesses of producing catharsis. Croton oil is a *specific* purgative; that is, its properties are equally manifested whether externally applied on an absorbing surface laid over the abdomen in the form of a cataplasm, or exhibited internally. The active principle—the tigline—is absorbed, and is carried by the circulating mass of the blood into direct contact with the disordered tissues. Its *modus operandi* is still a mystery.

ABSURDITIES OF THE FACULTY.

We have before stated that one of the chief objects in establishing this Journal was to expose and correct the errors in medical science, which a long course of prescription seems to have sanctioned as if incontrovertible.

These errors pervade all the branches of medical science, while the number in each, and the extent to which they are carried, are almost incredible. One of the most common subjects of misrepresentation, is as to the nature of the simplest functions in animal physiology. We have a delectable specimen of the ignorance and folly, which characterize a class of men, profesing to be learned, to base every thing upon unerring facts, and to reason in strict conformity with the principles of inductive philosophy, in the little article of which this notice is introductory. Though taken from one of the most respectable Journals of Medicine, a greater absurdity was never uttered in the name of science.

To call the effete matters which are habitually thrown off from the emunctories of the human system, animal secretions, is a perversion of language, which the common sense of every reflecting man, would prevent his using. Every one knows that *secretion* and *excretion* are very different terms, and imply very different duties.

The merest tyro in physiology, is aware that the former is a result of the function of the lymphatics, that through it the fabulum of life is supplied, and that its products are invariably transmitted to the heart, and thence into the general circulations. The excretions are, so to speak, the debris of the general man; they are the portions of the system, which, having fulfilled their duties are thrown off as excrementitious. The distinction between these two functions, is so simple and obvious that every pretender to scientific knowledge ought to recognize it at a glance; and yet we see medical writers, and medical teachers, as the Professors in our Colleges, in the constant practice of confounding them as if they were one and the same.

The error in this instance, is not one of very great importance; and we only allude to it as illustrative of the absurdities, which those accustomed to copy their opinions from authority are prone to fall into. The doctrine of the equal powers of repulsion and attraction, in animal, as in all other matter, which we have taught for many years, would if generally known, prevent the commission of such errors.

ON MUCOUS MEMBRANES AND THEIR SECRETION

Mucous is found, on microscopic examination, to be composed of a viscid stringy fluid, and of a solid matter, that consists chiefly of shreds of the epithelium. It is sometimes acid, and at other times alkaline, Donne distinguishes three kinds of mucous membranes:—1. Those that are analogous to the skin, which furnish a frothy acid secretion; for example, the lining of the vagina. These acid mucous membranes, which our author calls *false*, never exhibit any vibratory cilia on their surface. 2. *True* mucous membranes—as that of the bronchi—which secrete a fluid that possesses alkaline properties, is viscid, and contains mucous globules: these are supplied with vibratory cilia. 3. Intermediate mucous membranes, which secrete a mixed kind of mucous: of this kind are those which exist around the orifices of the mouth, nose, anus. &c.—*Med. Chir. Review.*

INDEX

TO

FIRST VOLUME.

PAGE
The Mysteries of the Faculty. - - - 1
Symptoms of Tubercular Disease. - 2
European Discoveries in Tubercular Disease. - - - - - - 7
The Sequel of Homœopathy. - - 11
Effects of Galvanism known to the Ancients. - - - - - - 17
Plans to prevent the transmission of Hereditary Diseases. - - - 18
Lunar Influence. - - - - - 19
Hemorrhage from the Lungs. - - 25
Diagnosis by the Pulse, and Hemorrhage from the lungs. - - - - - 26
Spinal Meningitis. - - - 27
Tubercular Consumption. - - 28
Statistics of Cancer. - - - 28
Scrofulous Abscess of the Testis. - 28
Sudden Shock of the Brain and recovery by similar means, (Similia Similibus.) 29
Making believe to administer Arnica. 30
Determination to the Skin in Scarlatina and Measles. - - - - - 31
Clinical Lectures on Diseases of the Nervous System. - - - 31
Rotary Magnetic Machine, effects of 31
The Agent in Animal Magnetism. - 34
Remarkable Case of Magnetism. - 35
Observations on Spermatorrhœa. - - 37
The Power of the Human Will. - 40
Mental Powers of Clairvoyance. - 41
Scarlatina, Erysipelas, and Sulphate of Quinine. - - - - - - 42
Sub-Arachnoid Hemorrhage. - 43
Cholera, Nervous Headache, Tetanus. 43
Paralysis of the Bladder, and Tincture Cantharides. - - - 44

PAGE.
Researches into the Local causes of Deafness. - - - - 44
Changes of Mercurials in the System. 45
Statistics of Lithotomy and Anal Fistula. 45
Ovarian Tumors, and Symptoms of - 46
Muscular Motions, New Pessaries - 46
Tuberculous Deposit in the Pia Mater. 47
Operation in the Mesmeric State - 47
Pathology of the Spleen. - - 47
Editor of the Lancet and Animal Magnetism. - - - - 48
Iron and Iodine, Tendinous Re-union, Mezereon. - - - 48
New Phrenological Organs. - - 49
Mr. Burritt. the "Learned Blacksmith," to the Rev. Leroy Sunderland. - 50
Spermatozoa. - - - 50
Commentaries on some Doctrines of a Dangerous Tendency, in Medicine. 50
Operations in Disease of the Ovaria, &c. 51
Effectual Reduction of Strangulated Hernia, by Ether. - - - 52
Nitric Acid in Internal Hemorrhoids. 52
Analogy between Diseases of Different Periods of Life, and Corresponding Periods of the Year, - - - 52
Ancient Ruins, - - - 53
Amputation in Paris, - - 53
Formula for Rheumatism, - - 53
Digestion of Alimentary Substances 53
Prevention of sore Nipples, - - 53
Rhus Toxicodendron, - - 53
Arsenic in the Chronic Pleurisy of Sheep, 54
Carbo Animalis in Buboes, - - 54
Poisoning by Stramonium, - 54
Effects of an over dose of Cina, 54

Page.
Cicuta, 55
Muriate of Tin in Chorea, 55
Chronic Bronchitis, Hooping Cough, 56
Cough,—Hawking, 56
Purpura Hemorhagica, 56
Increase of Knowledge, 56
The Magnetic Poles and the Moon, 56
Variation at City Hall, 56
Magnetic Organization of the Human System, 57
Number of Poles in the Brain, 58
Number of Poles in the Heart, 58
Action of Magnetic Poles, 59
The Vagus Nerve, 61
Seat of Tubercles in Phthisis, 61
Lecture on the Magnetism of the Human Body, by Professor R. W. Gibbons, M. D., of South Carolina, 61
Polarity of the Brain, 62
Opposite Polarity in right and left side of the Body, 65
Major Periods of Development in Man, being a sixth Contribution to Proleptics, by T. Laycock, M. D., Physician to the York Dispensary, &c., 67
New Era in the Practice of Medicine. Lecture delivered at the Egyptian Hall, Piccadilly, London, 1840, by S. Dickson, M. D. Lecture 1, Fallacies of the Faculty. Introduction, 73
Phenomena of Health, 77
" Disease, 79
Cause of Disease, 79
Arsenic in Diseases of the Skin, by J. E. Erickson, Esq., 80
Arsenic in Tumors and Abscesses of the Tongue, by Sir. B. C. Brodie 81
Phthisis, by Dr. Graves, Dublin, 81
Observations on Dr Graves' Views, 82
Similia similibus curantur. Corollaries, 82
Polemical Powers of Hahnemann. From the British Journal of Homœopathy. *Introduction to the proving of Arsenic.* By Samuel Hahnemann, 82
Magnetised Arsenic, 83
Numbering, its importance to Physicians, 84
Connection of Respiration with Sensibility. New explanation of an old riddle, 86
The Cold Water Dash and Reflex Action, 87
Magnetic Poles, and Heat and Cold, 87
Case of Hæmatemesis, by J. Epps, M.D. 89
Auscultation, 91
Curability of Phthisis, by M. Boudet, 91
Confirmation of M. Boudet's Views, 93
Rotary Magnetic Machine, description of, 94
Extraordinary Effects of, in Toothache. Jumping, 95
Tic Douloureux, 95
Toothache, with swelled Face, 95
White Swellings of mucous Surfaces, and Encysted Tumors, 95

Page.
Lateral Curvatures of the Spine, 96
White Swellings of serous Surfaces of Joints and Limbs, 97
Bronchocele or Goitre, 97
Deafness, Tubercular Disease, 98
Eye, diseases of, 98
Erysipelas, 98
Tubercular Disease of Neck (King's Evil,) 99
Strabismus, 99
Entropium—Aphonia, 99
Throat—Tubercular Disease of, 99
Acute Diseases, 99
Tubercular Disease of the Organs, 99
Rules in Magnetizing, 100
Animal Magnetism, 101
Extraordinary Instance of Clairvoyance, 101
Animal Electricity, 102
Mr. Sunderland and the Ghost, 103
Mesmeric Prevision, 103
Fever—treatment of, 105
Colchicum—poisoning by, 105
Hydrocephalus—Inspissated Bile, 106
Croup and Sulp. Copper, 106
Volvulus—treatment of, 107
Mania and Antimony, 107
Dartres—Pilula Ferri, 107
Hydrocephalus—compression in, 107
Diabetes—Incontinence of Urine, 108
Dropsies—Elder Bark in, 108
Aphonia cured by Galvanism, 108
Femeral Hernia, 109
Strabismus, 109
Deafness—Electro—puncture in 110
Night Blindness—Leeches, 110
Par Vagum—Saffron, 111
Facial Neuralgia, 111
Black Drop, 111
Dropsy—Bronchitis, 111
Cæsarian Section, 112
Venereal Warts, 112
Uterus—Rupture of, 112
Leeches in the Liver, and Snakes in the Stomach, 112
Naptha, 112
Revelations in Mesmerism, 112
New Era in the practice of Medicine. Lecture delivered at the Egyptian Hall, Piccadilly, London, 1840, by S. Dickson, M. D. Lecture II—Fallacies of the Faculty. Introduction, 113
Intermittent Fever—or Ague 114
Spasmodic Complaints, 118
Paralysis, 120
Intermittent Fever following local injury, 126
Lecture on the Magnetism of the Human Body, by Professor R. W. Gibbs, M. D, (continued from page 67,) 127
Magnetic organization of the organs of the human body, as traced by the Rotary Magnetic Machine, 135

PAGE.
Motions of the Magnetic Poles, and of the Earth and Planets, - - 136
The "Water Cure" analyzed, - 144
Digitalis in Epilepsy, - - 146
Incontinence of Urine, and Enuresis cured by Electricity, - - 146
Amputation performed during the Magnetic Sleep, - - - 147
Period of incubation in Syphillis, 147
Tapping the Chest, - - 148
Belladonna in Scarlet Fever, - 148
Paralysis, - - - 148
Tests for Arsenic, - - 148
Influence of Factory Labor on growth, 146
Treatment of Erectile Tumors of the Eyelids, - - - 149
Case of large Ovarian Tumor removed by operation, by F. Bird, M. D. 149
On the true character of Idiopathic Erysipelas, by J. A. Wilson, M. D., 151
The Rotary Magnetic Machine, - 155
The Savage Rotary Magnetic Machine, 156
The direction and character of the forces as they proceed from the Buttons, 156
The extraordinary effects of these instruments, - - - - 157
The great number and variety of cases in which they have been tested, - 157
The great importance of the machine in incipient Tubercular Consumption, 157
Tubercular disease of the Serous Surfaces; Directions for Magnetising the Heart, Pleura, Stomach, Liver, Spleen, Large Intestines, Small Intestines, Mesentary, Kidneys, Cystis, Prostate Gland, Uterus and Ovaria, - 158
Directions for Magnetising in Chlorosis, Amenorrhœa, Leucorrhœa. Prolapsus-uteri, Disease of the Stomach and Uterus, Disease of the Cerebellum and Uterus, Brain, Sick-head-aches, Tic-Dolereux, Strabismus, Eye, Nose, Antrum, Tooth-ache, Throat, and Rheumatism, - - - - - 159
Directions for Magnetising in Paralysis, Chorea, St. Vitus' Dance, Epilepsy, Catalepsy, Deafness, Joints and Limbs, Spine in distortions, and distortions in Lumbar Abscess and Aphonia, - 160
Directions for distinguishing Tubercular diseases of the Organs, and for graduating the power of the Machine in these cases, and the time occupied in Magnetising at each sitting, 160 161
Hypertrophy of Mucous Surfaces. Directions for Magnetising in Bronchitis, Chronic and Mucous disease of the Throat, - - - - - 161
Acute Diseases; Inflammation of the Serous Surfaces; Acute Tubercula; cases in which the Machine has been used, - - - 161 162

PAGE.
Directions for distinguishing Acute Disease of the Serous Surfaces, and for Magnetising in these cases, and in Fevers, Acute Bronchitis, and Shaking Palsy, - - - 162
Diseases of the Skin. Directions for Magnetising in Diseases of the Skin, 162
Effects of Magnetising on the Magnetizer—Magnetic Sleep, - - 163
Spine, Lateral Curvatures—Directions for Magnetising in these cases, 163—4
Classification of Diseases, - - 164
Directions for running the Savage Rotary Magnetic Machine, - - 164
Animal and Vegetable Electricity, 165
Mercury and Iodine in Syphilis, 167
Treatment of Stricture of the Urethra, 167
Effects of Tartar Emetic on Infants, 167
Lateral Curvatures of the Spine, - 168
Structure and Diseases of the Eustachian Tube, - - - - - 168
Copaiva Sugar Plumbs, - - 168
Original seat of Cancer in the Eyelids, 168
Fallacies of the Faculty, - - 169
Apoplexy, - - - - 171
Ruptured Blood-vessel or Hemorrhage, 172
Diseases of the Heart, - . 175
Pulmonary Consumption, or Decline, 177
Lectures on Organic Chemistry, - 179
Cures of various Diseases with Mesmerism, by different Gentlemen, - 184
Corollaries, - - - - - 185
Mesmeric Revelation, - - - 185
Observations in Midwifery, - - 189
Excito-motor Action of the Uterus, - 192
The Excito-motor Actions caused by the presence of the Child in the Vigina, - - - - 192
Table of the Act of Parturition in First Stage, - - - 194
Table of the Act of Parturition in the Second Stage, - - - 194
Table of the Act of Parturition in the Third Stage, - - 194
The periods regulating the Recurrence of Vital Phenomena. - - 195
Case of Ovarian Dropsy, - 198
"New Magnetic Fluid," - 189
Mesmerism, - - - 199
Influence of Opium on the Catamenial Functions, - - - 199
On the Inorganic Constituents of Plants, 200
Royal Medico-Botanical Society, - 201
Analyses of Blood in Diseases, - 202
Tabular View of One Hundred and Eighty Cases of Tubercle of the Lungs in Children, with some remarks on Infantile Consumption, 203
On the Exclusion of the Atmospheric Air in the Treatment of Certain Local Diseases, - - 203

PAGE.
On the Microscopical Characters of Milk and the use of the Microscope in the choice of a Nurse, - - 204
Mineral Marmoratum, or Paste to fill Hollow Teeth, - - - 204
Tooth Powders, - - - 204
Cases reported for the Dissector, by A. H.—M. D. - - - - - 204
American Medical Students and their Habits. - - - 206
The Rotary Magnetic Machine and the Duodynamic treatment of Diseases, 207
Effects of the Rotary Magnetic Machines, - - - 208
The Curability of Cerebral and Spinal Softenings, - - - - 211
Observations in Midwifery, by Tyler Smith, M. D., - - - 211
Uterine Contractions excited through the Medium of the Stomach, - 212
Dilatation of the Os Uteri through the Medium of the Stomach, - 212
Case of Complicated Ovarian Disease, 214
Examination, Twenty-six Hours after Death, - - - 215
Astonishing effect of Electricity in curing Hysterical Locked Jaw, - 215
The "Traitement Arabique" in obstinate cases of Skin Diseases. - 215
Memory, its Influence and Importance as a source of Action in Animals, 217
Miscellaneous Items, - - 118
" " - - 219
Absurdities of the Faculty, - 220
Index to the First Volume, - - 221
" " " - - - 222
" " " - - - 223
" " " - - - 224

NOTICE.

This number completes the First Volume of this Journal, and it is consequently accompanied with an Index. The commendations of the course we have pursued in conducting it, from many of the most distinguished men of the profession, who have become tired and ashamed of the old visionary theories and practice of the schools, and the patronage which has been extended to it, has encouraged us to publish another Volume, quarterly, the first number of which will be out on the First of January next.

The introduction of the Rotary Magnetic Machine, in the duodynamic treatment of diseases, has marked a new era in the practice of physic and surgery. We have sold more than a hundred of these machines to physicians during the last three months, and we shall be pleased to receive from those who are using them, any information that may be new and useful in the use of these instruments, for the next and succeeding numbers.

H. H. SHERWOOD, M. D.

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658